

FIG. 1A APPLICATION OF NO VOLTAGE

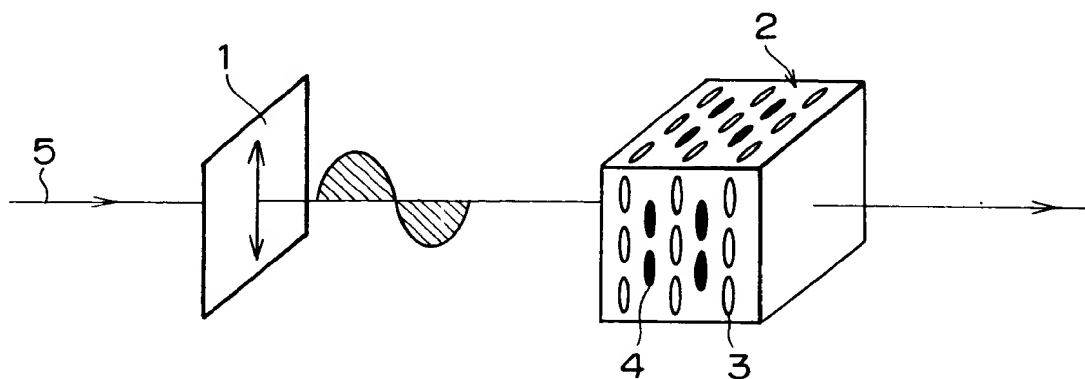


FIG. 1B APPLICATION OF VOLTAGE

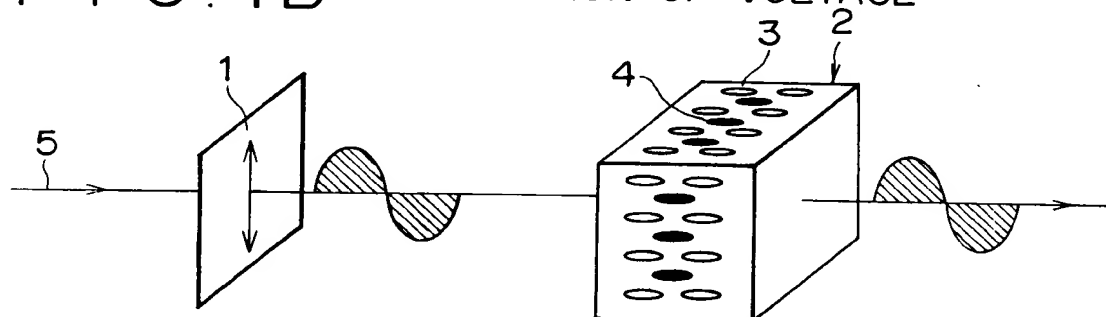


FIG. 1C DRIVE WAVEFORM OF RECTANGULAR WAVE

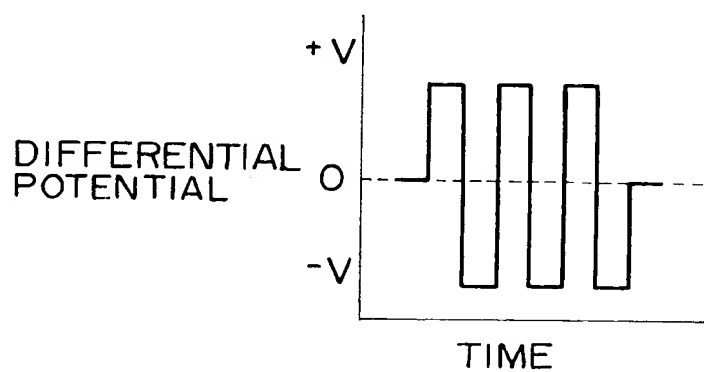


FIG. 2A

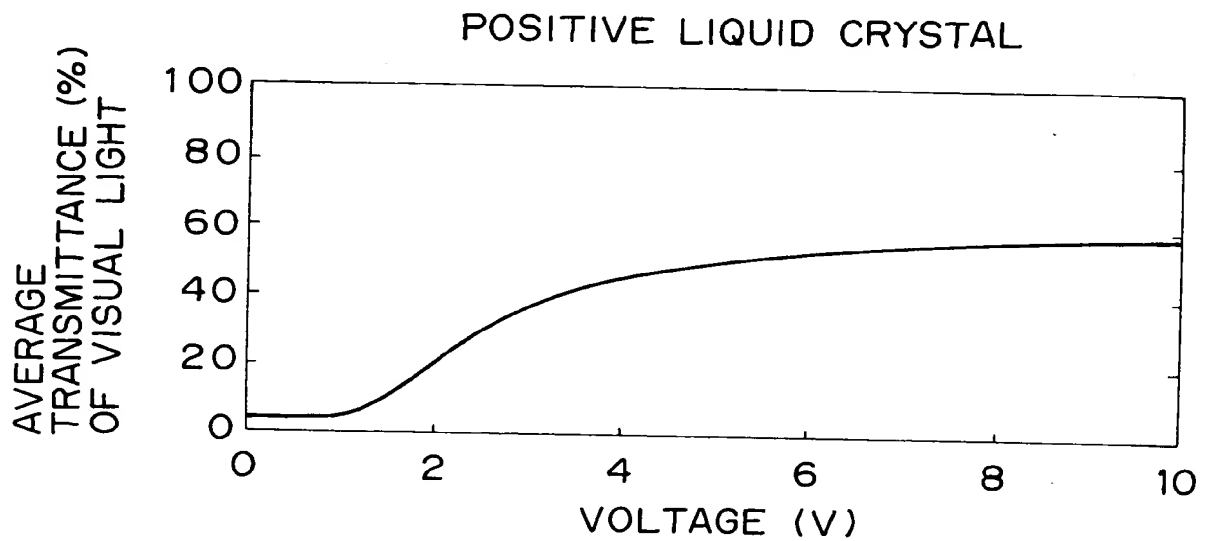


FIG. 2B

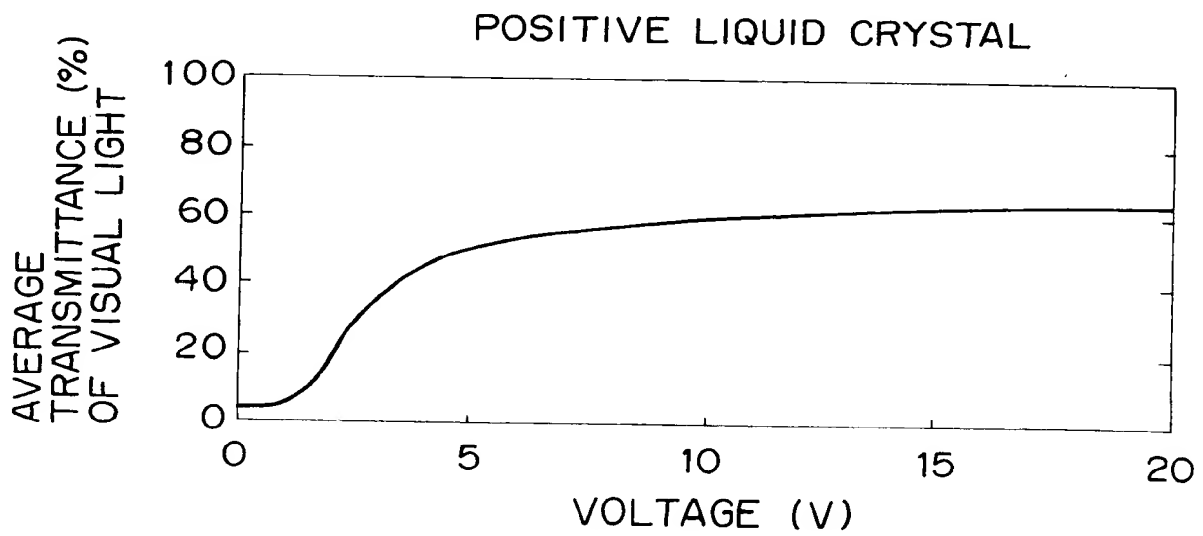


FIG. 3A

APPLICATION OF NO VOLTAGE

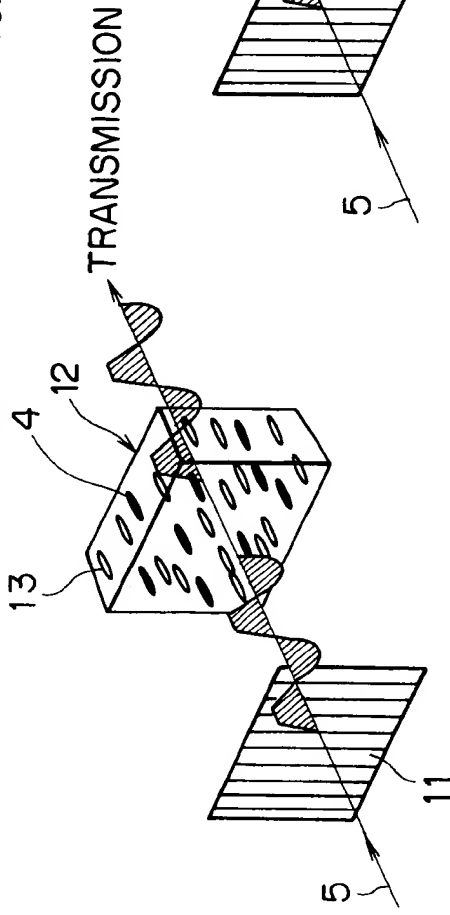


FIG. 3B

APPLICATION OF VOLTAGE

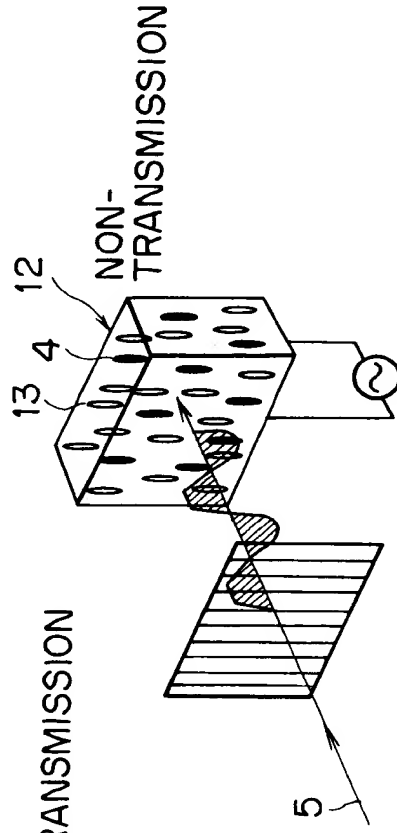


FIG. 3C DRIVE WAVEFORM OF RECTANGULAR WAVE

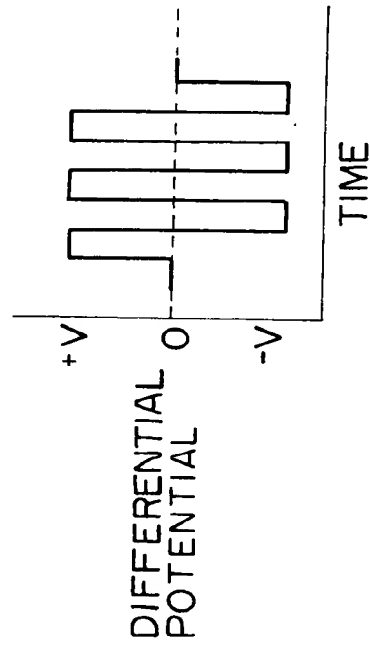


FIG. 4A

NEGATIVE LIQUID CRYSTAL

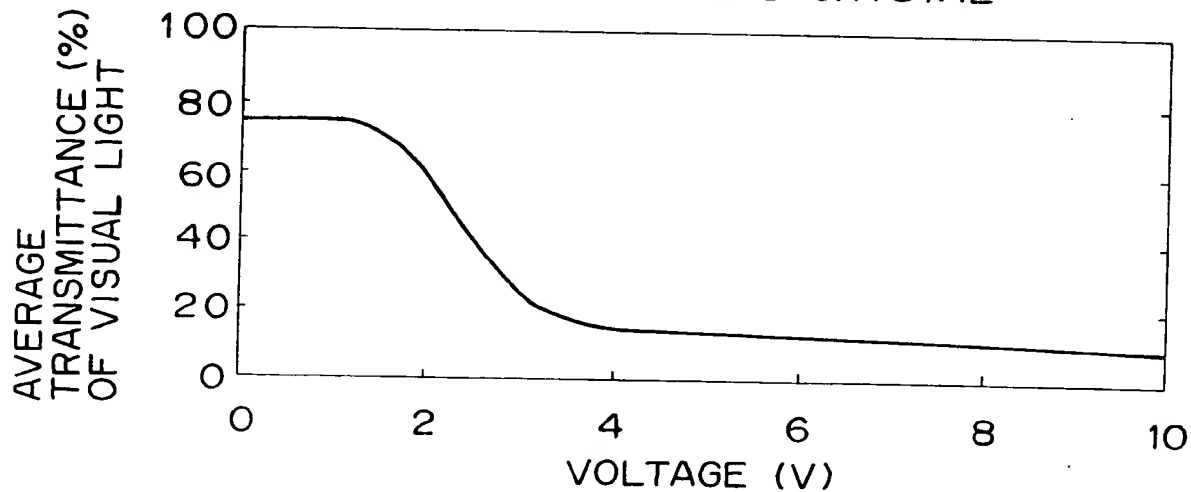


FIG. 4B

NEGATIVE LIQUID CRYSTAL

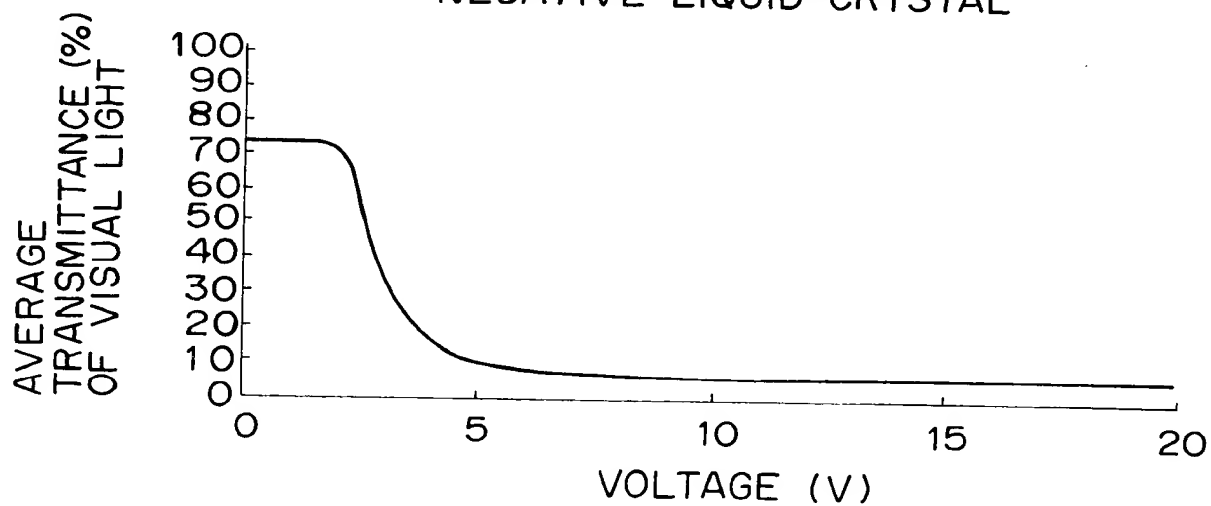


FIG. 5A

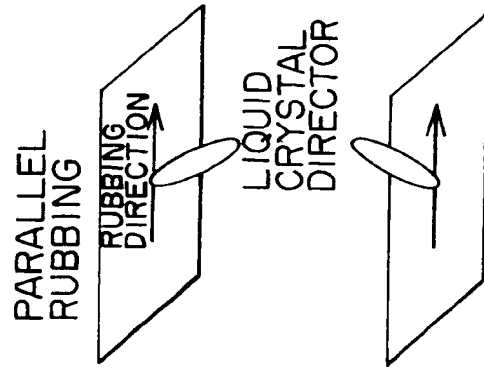


FIG. 5B

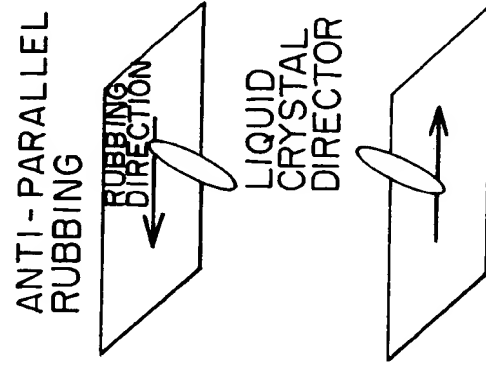


FIG. 5C

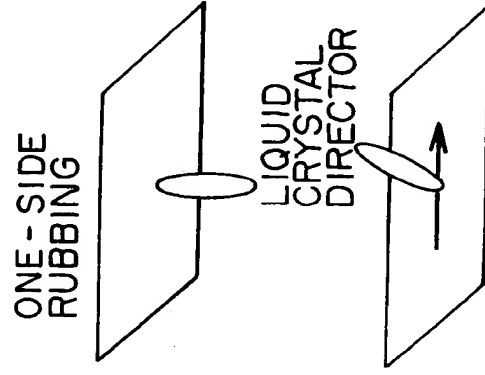


FIG. 6A

PARALLEL RUBBING CELL

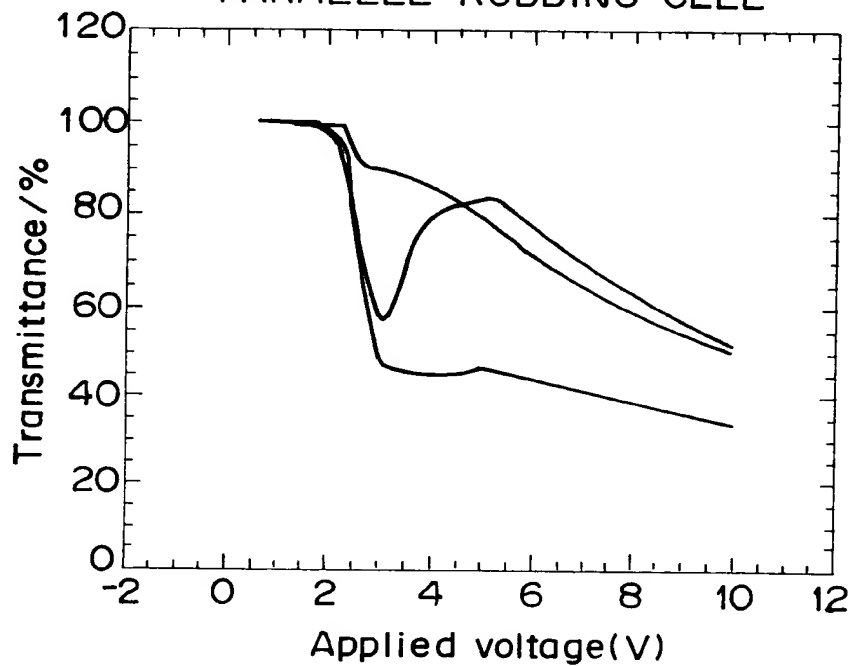


FIG. 6B

ANTI-PARALLEL RUBBING CELL

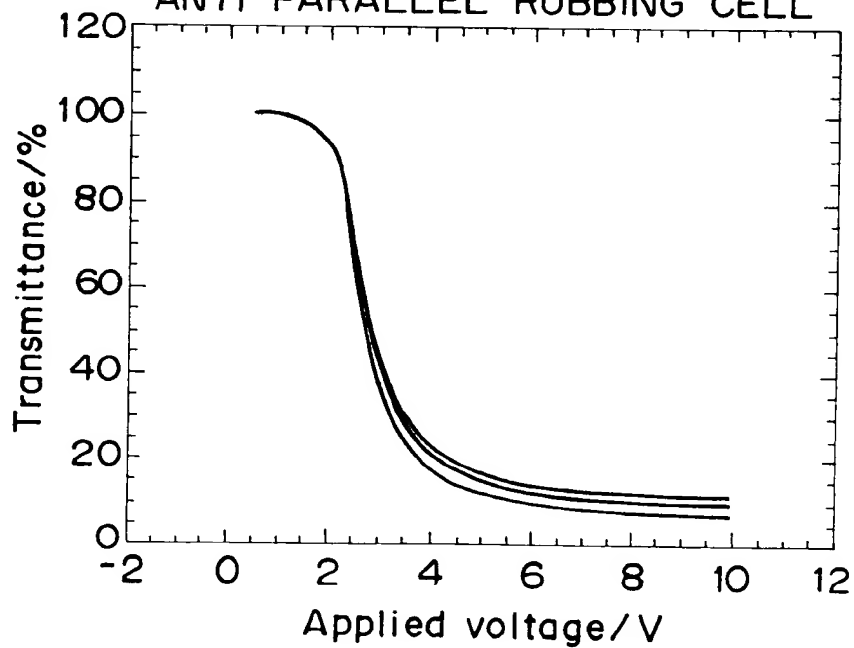


FIG. 6C

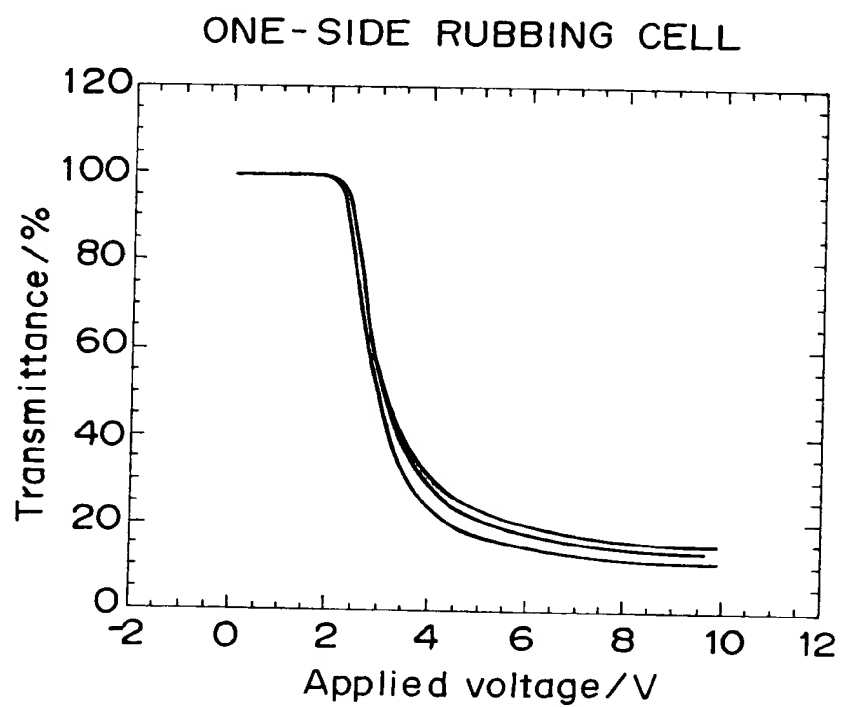


FIG. 7

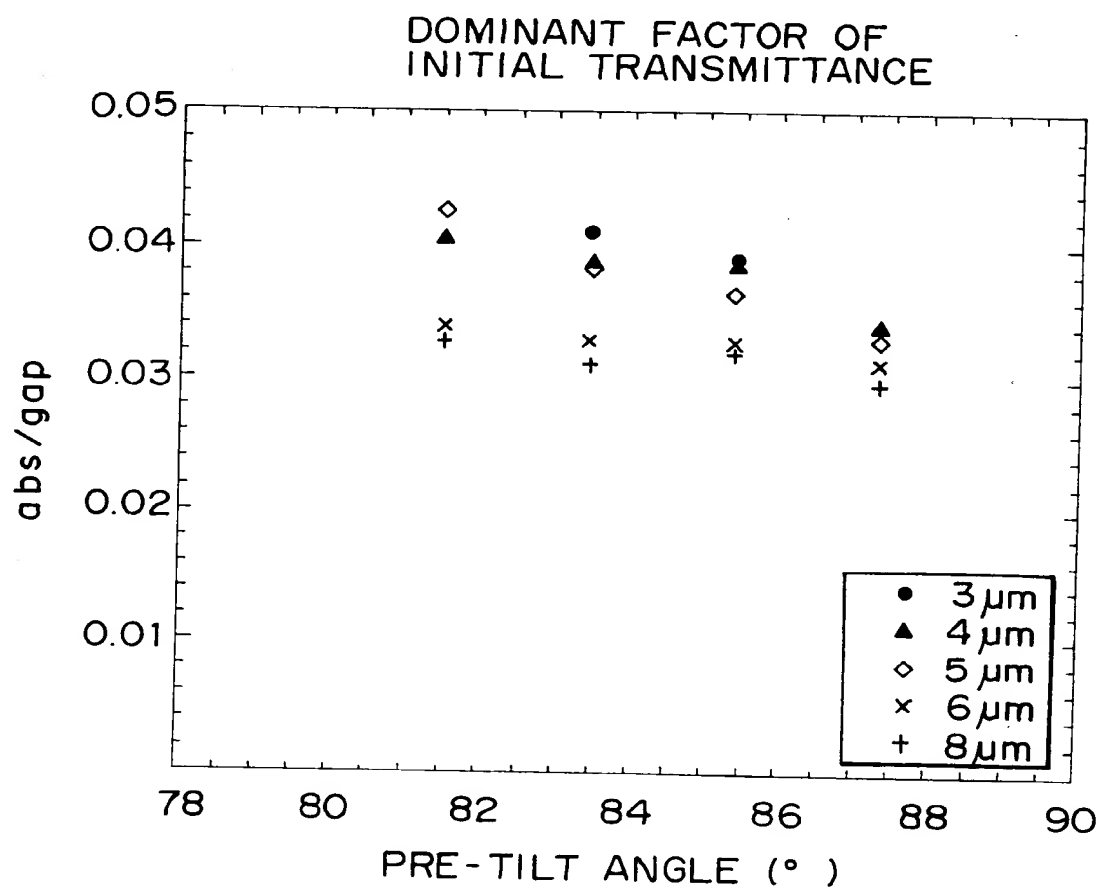


FIG. 8A

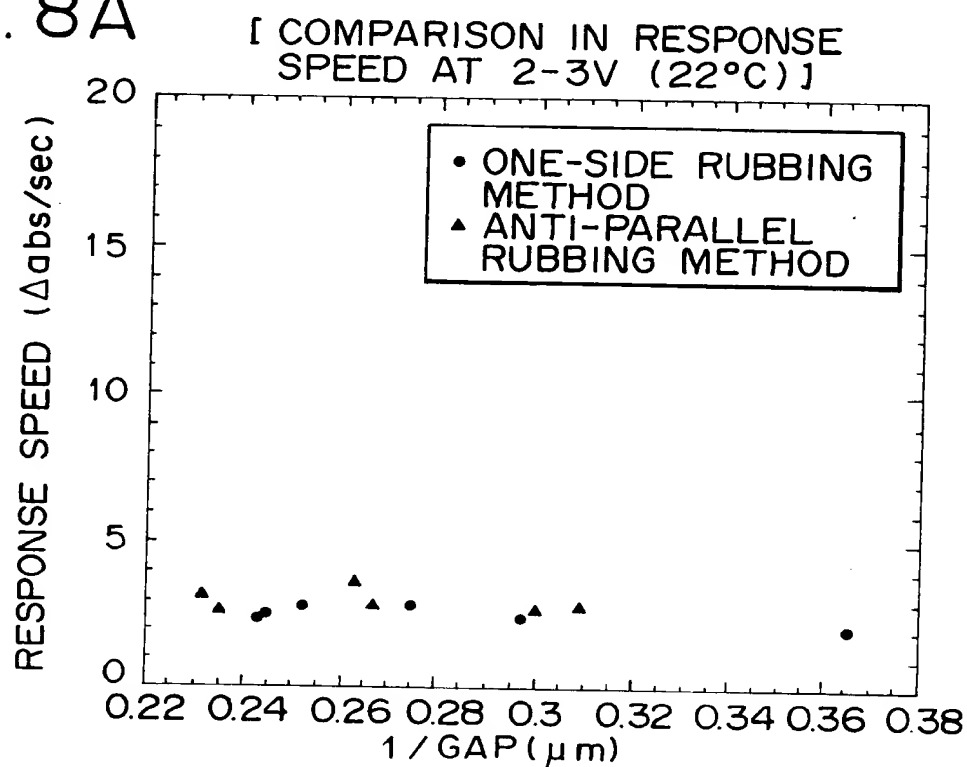


FIG. 8B

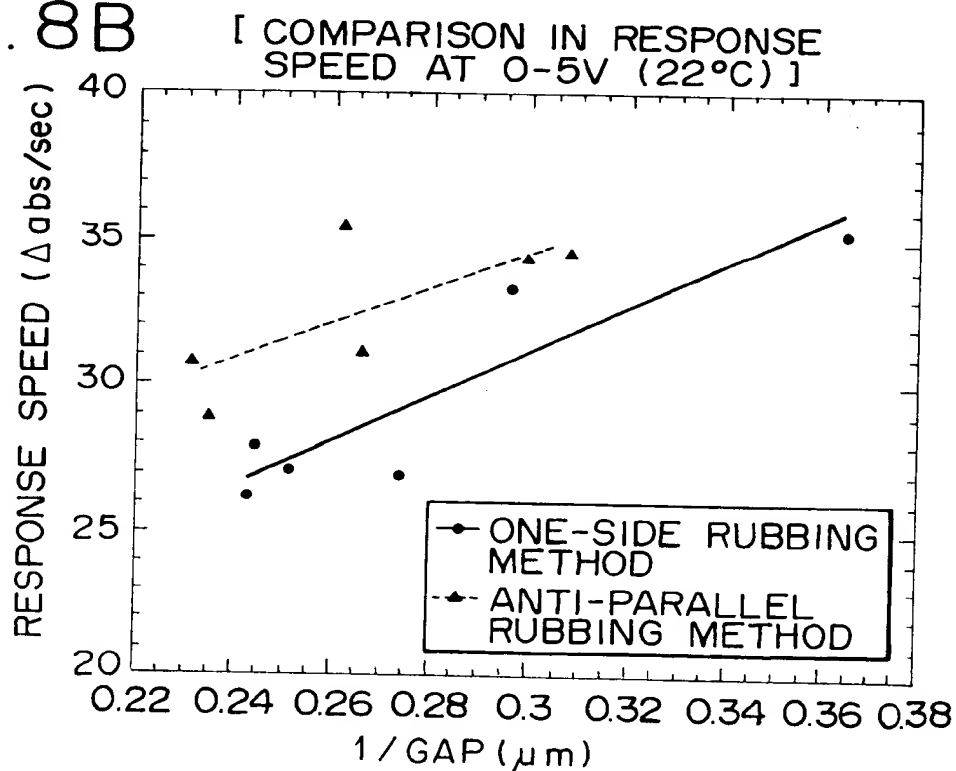


FIG. 8C

[COMPARISON IN RESPONSE
SPEED AT 2-3V (65°C)]

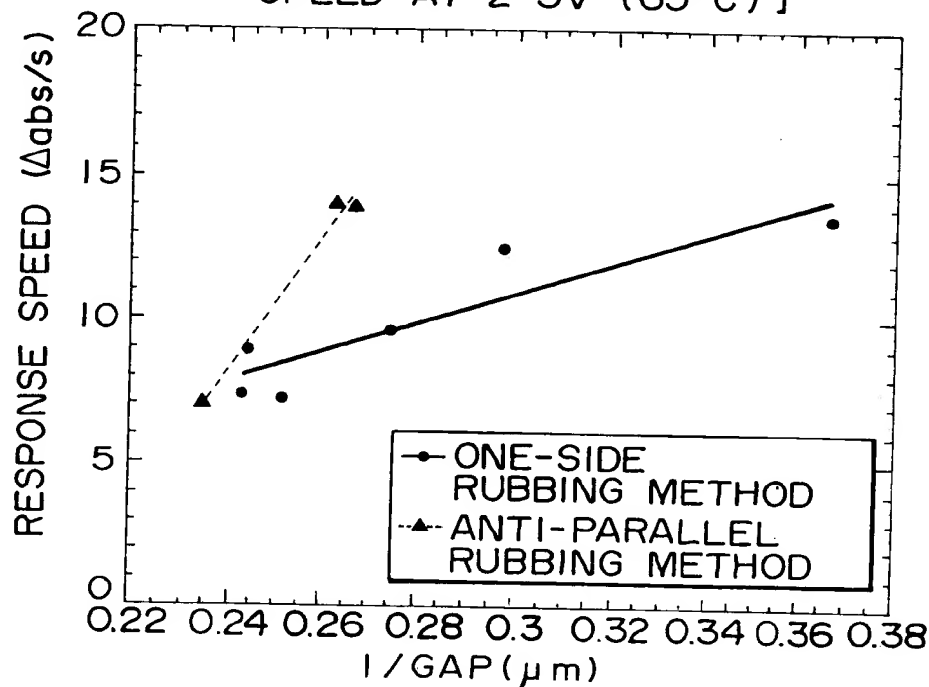


FIG. 8D

[COMPARISON IN RESPONSE
SPEED AT 0-5V (65°C)]

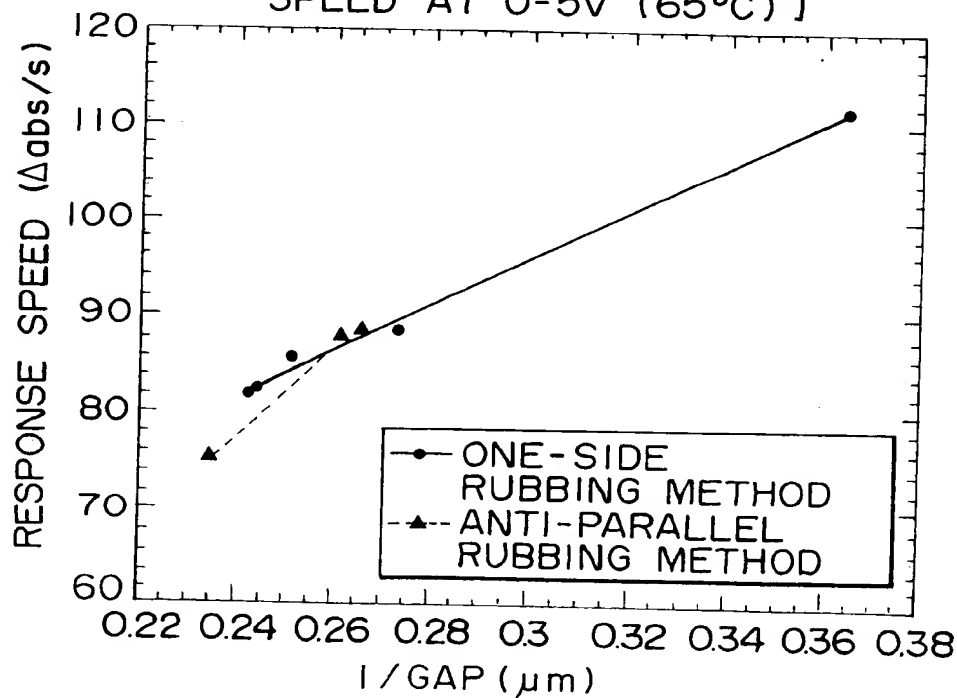


FIG. 9

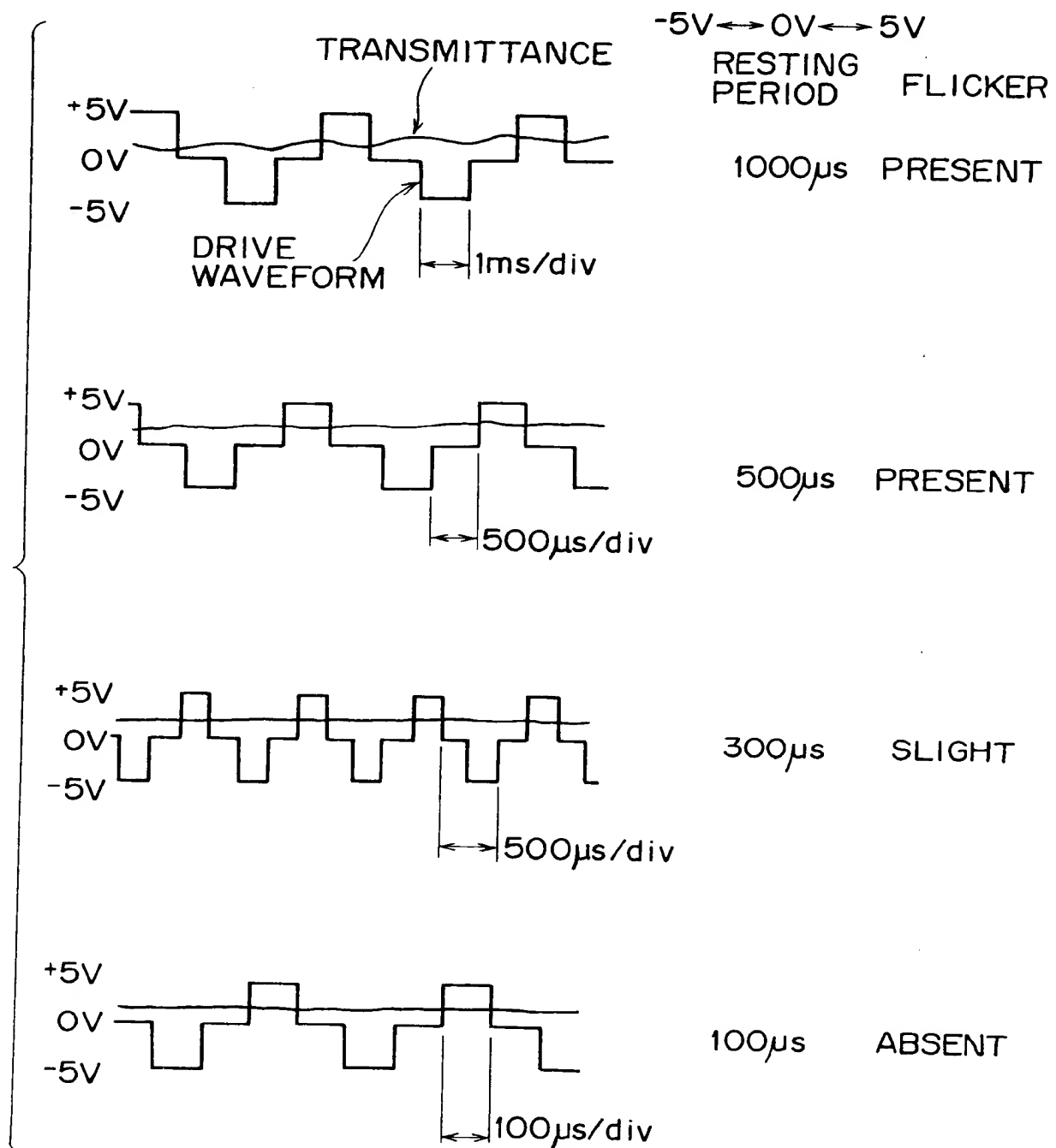


FIG. 10

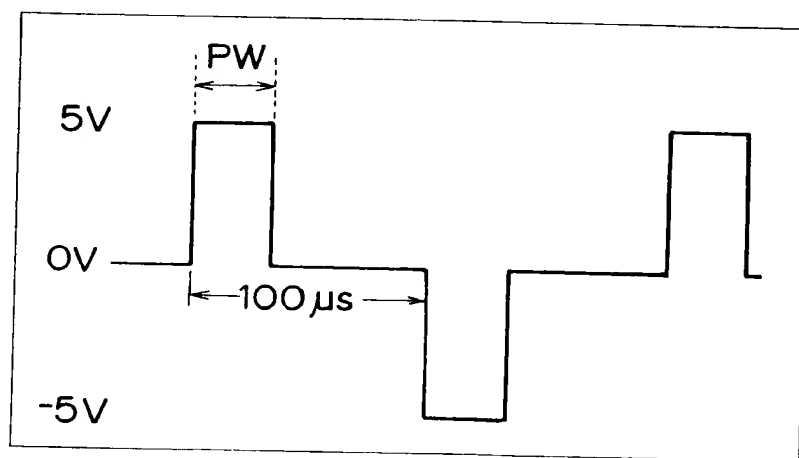
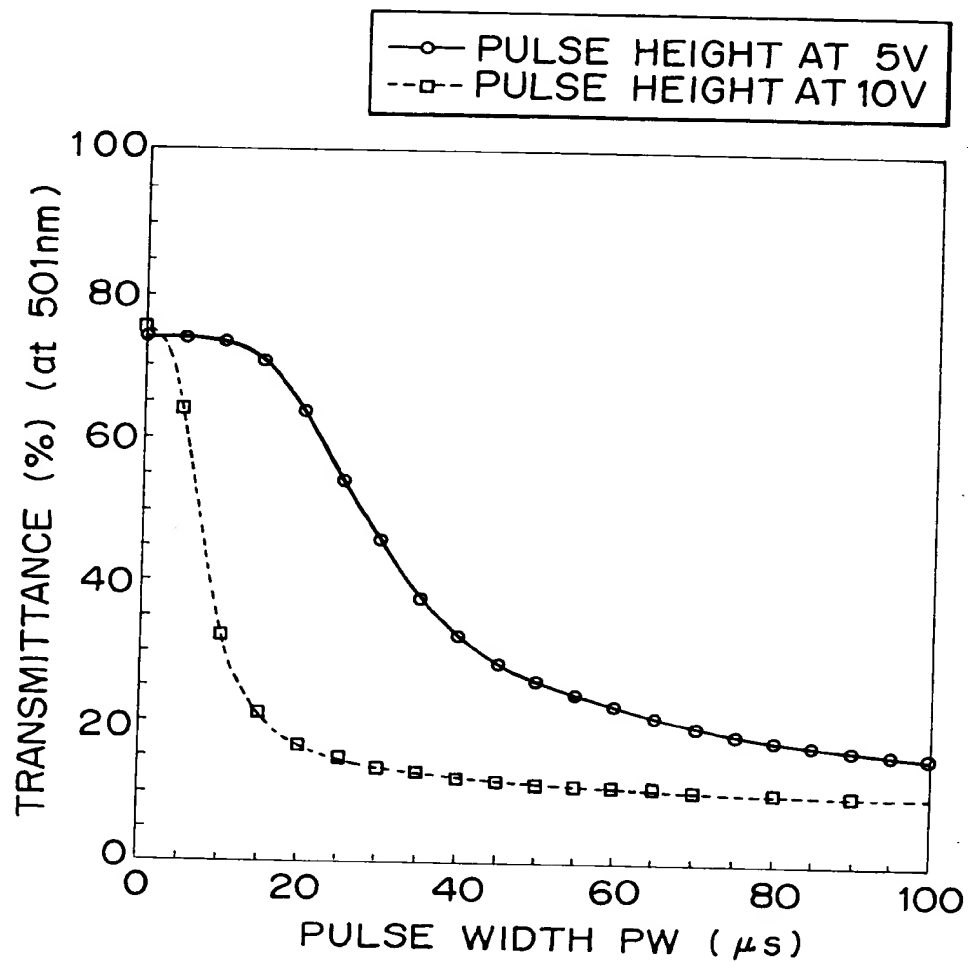


FIG. 11A

MODULATION OF PULSE WIDTH

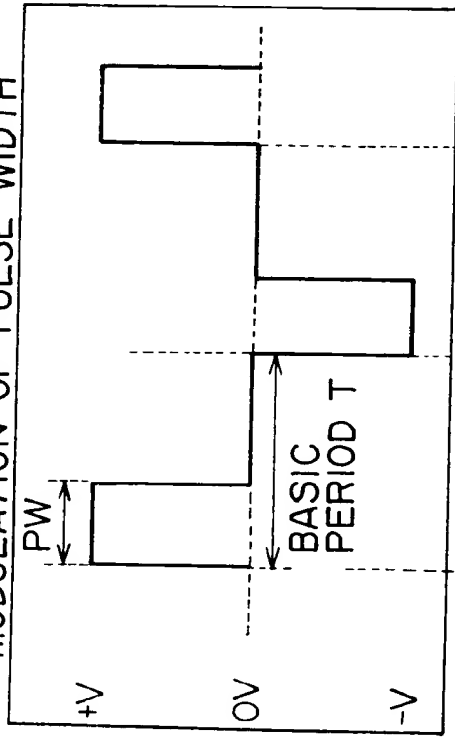
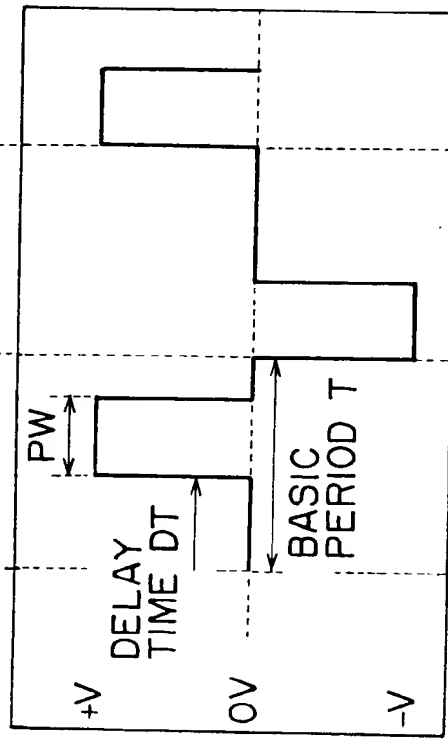


FIG. 11B



EQUIVALENT WAVEFORM

FIG. 11C

MODULATION OF PULSE DENSITY

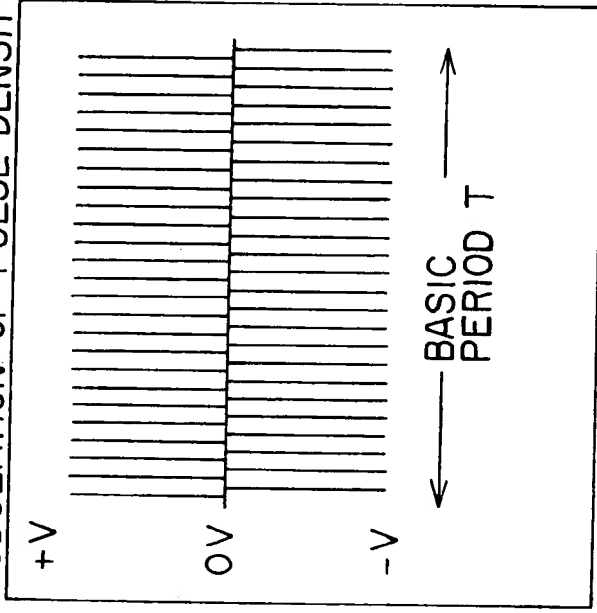
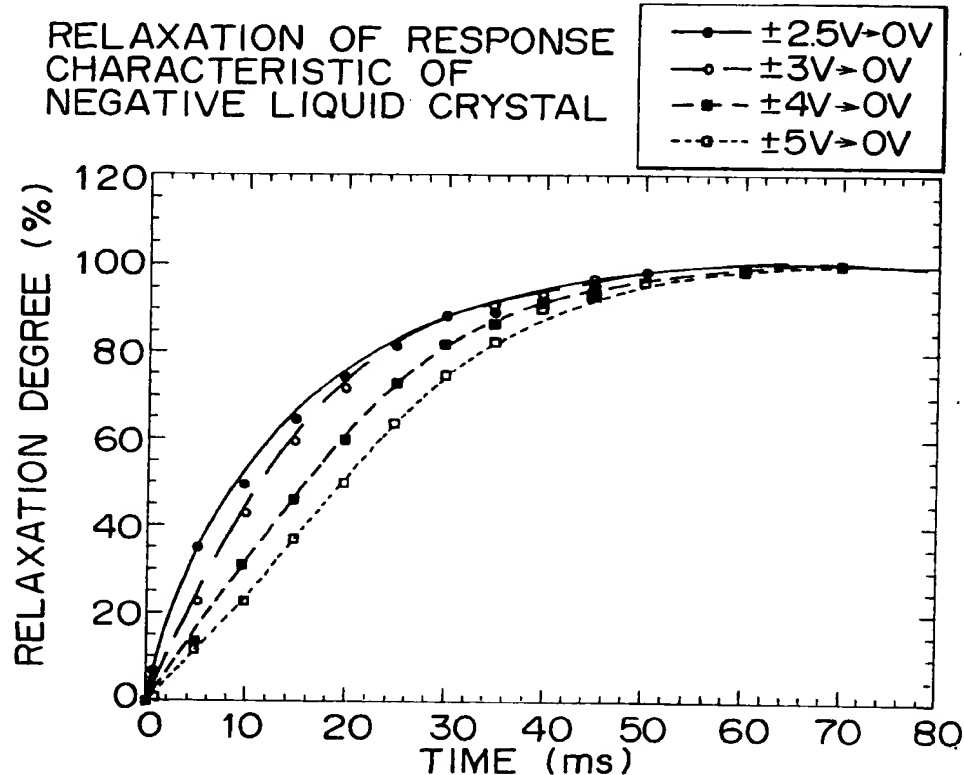


FIG. 12



RELATION STAGE	LINEAR TERM		NON-LINEAR TERM	
	R_1	τ_1	R_2	τ_2
2.5V→0V	100 %	14.2ms	0 %	
3V→0V	78 %	15.8ms	22 %	17.6ms
4V→0V	56 %	20.4ms	44 %	21.9ms
5V→0V	39 %	19.7ms	61 %	26.9ms

FIG.13A

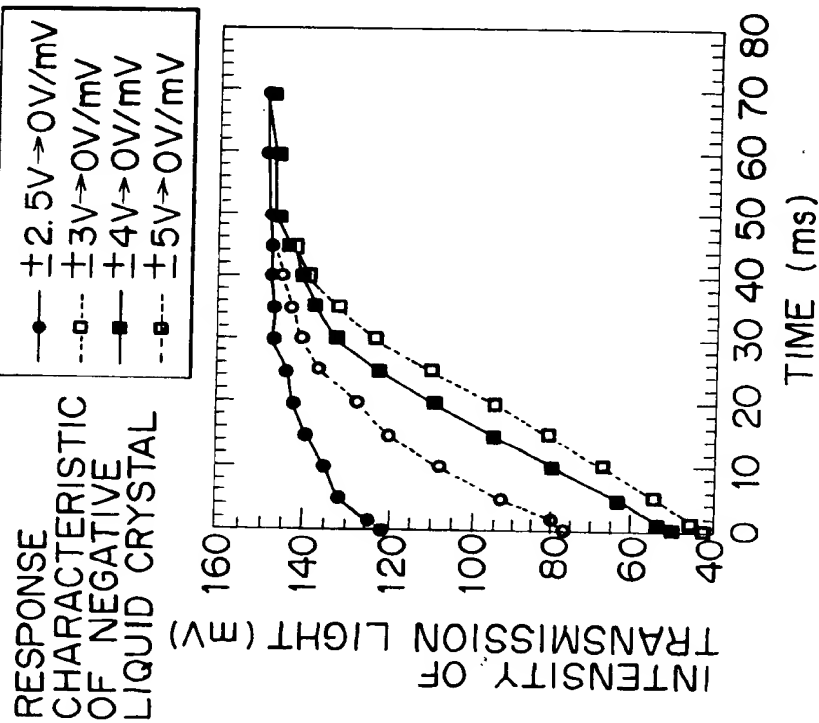


FIG.13B

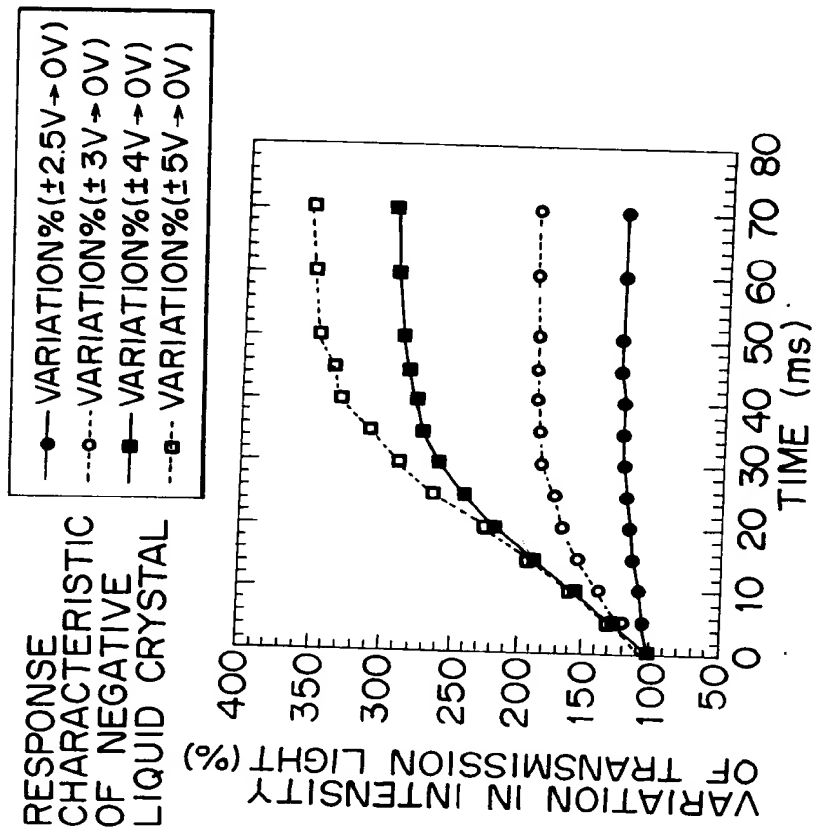


FIG. 13C

RESPONSE
CHARACTERISTIC
OF NEGATIVE
LIQUID CRYSTAL

- - - - VARIATION% ($\pm 2.5V \rightarrow 0V$)
 - - - - VARIATION% ($\pm 3V \rightarrow 0V$)
 - - - - VARIATION% ($\pm 4V \rightarrow 0V$)
 ——— VARIATION% ($+ 5V \rightarrow 0V$)

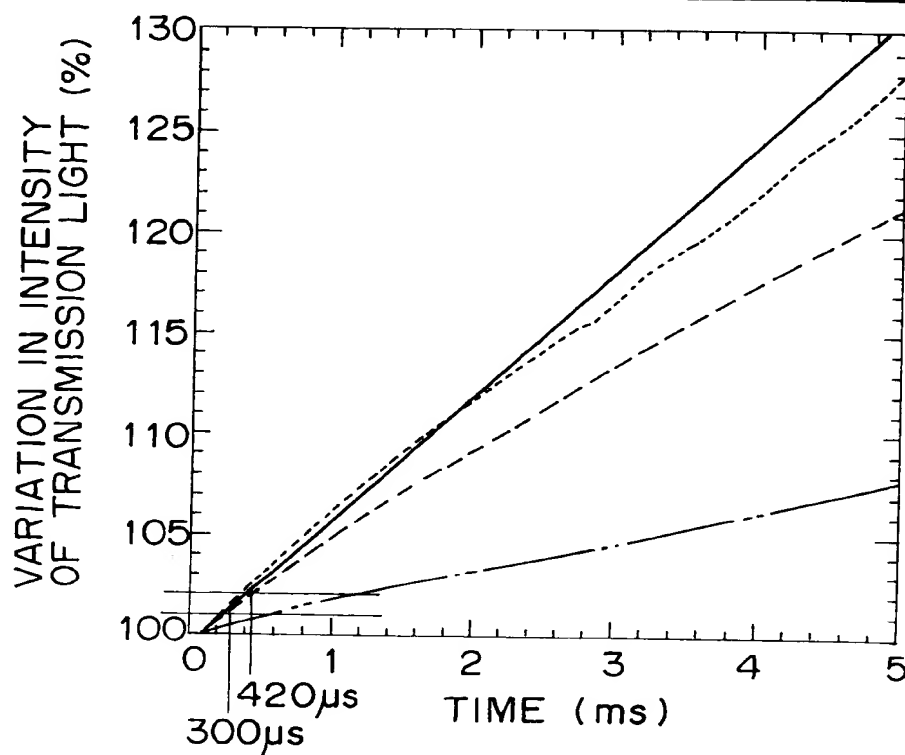


FIG. 14

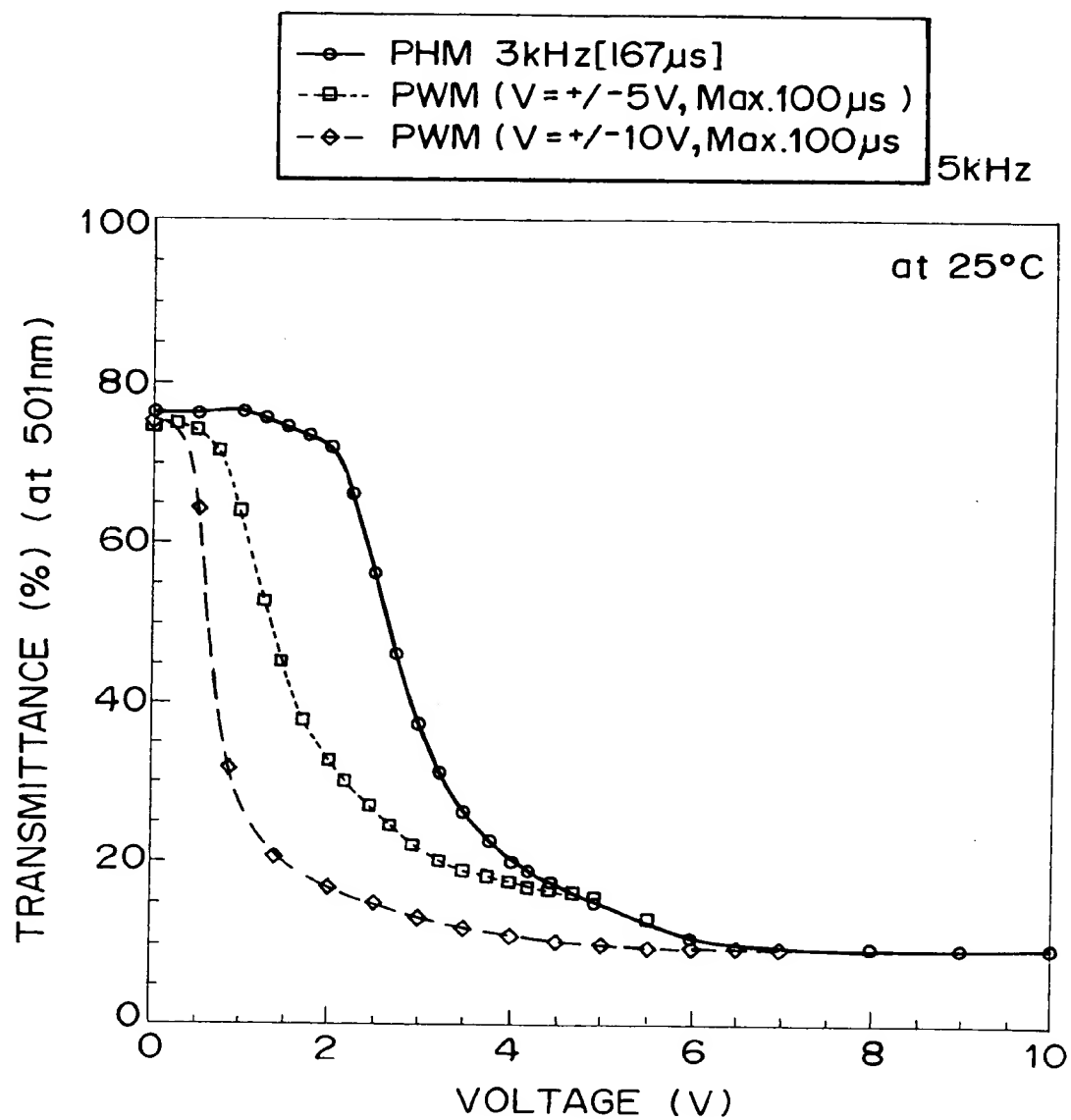


FIG. 15

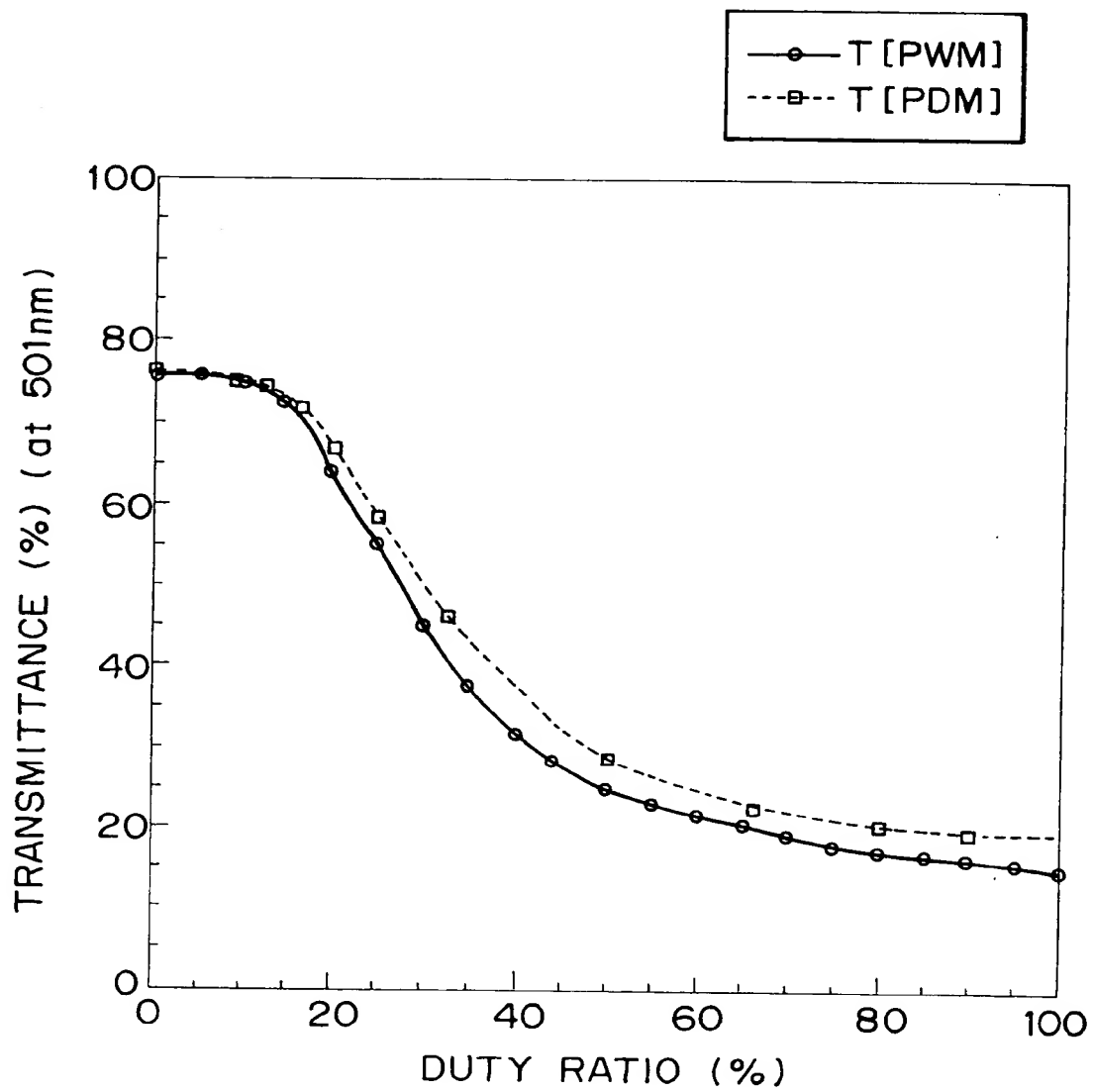


FIG. 16A

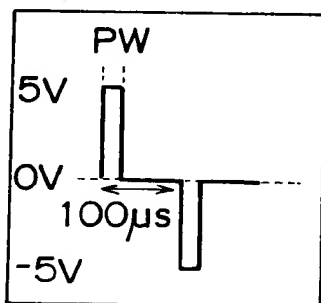


FIG. 16B

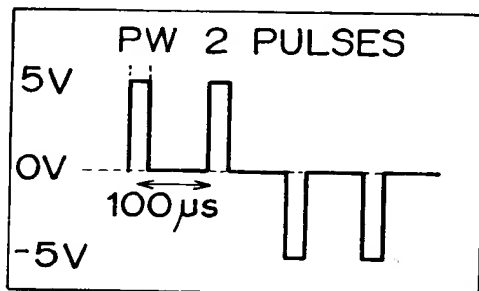


FIG. 16C

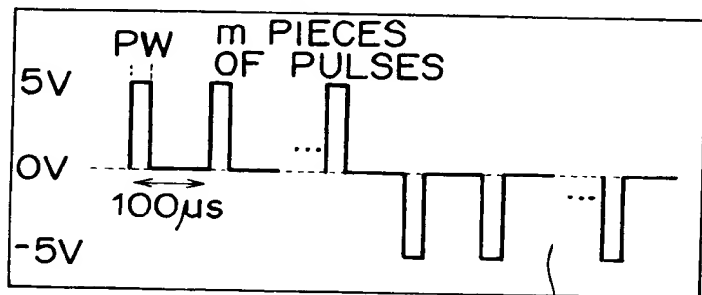


FIG. 16D

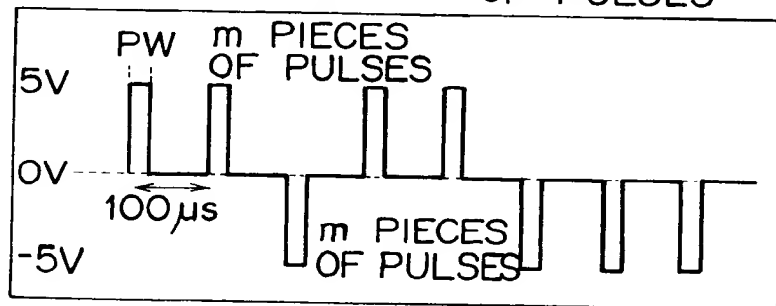


FIG. 16E NUMBER OF SYMMETRIC PULSES

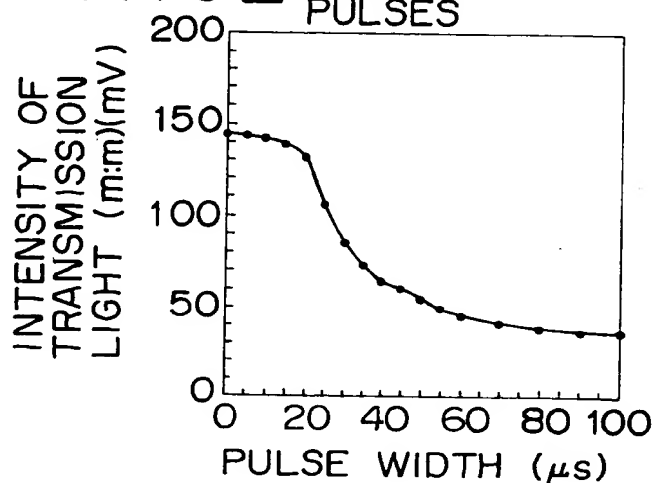


FIG. 17

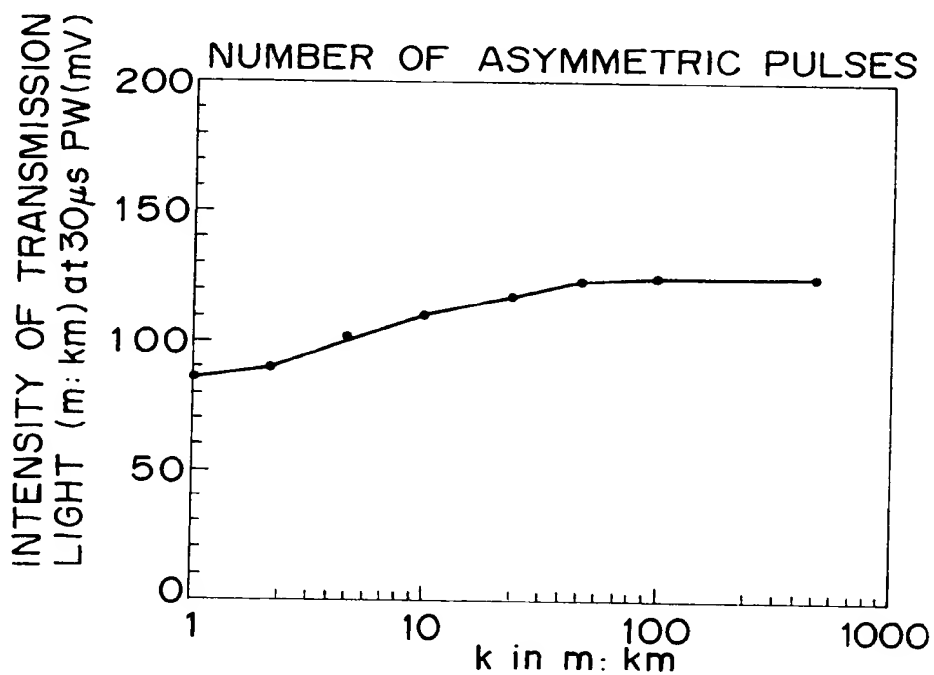
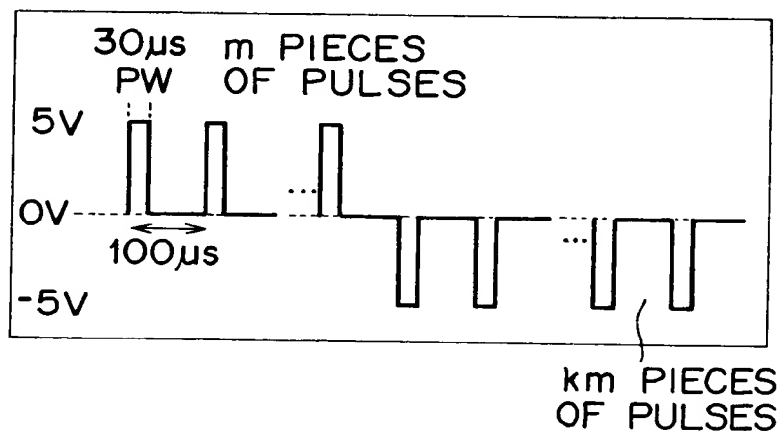
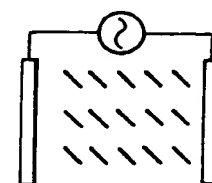
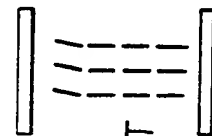
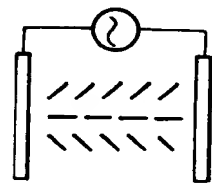
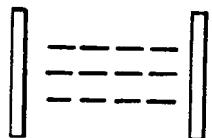


FIG. 18A

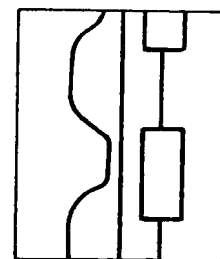
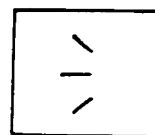
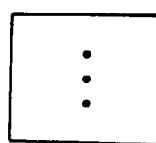
TRANSPARENT
ELECTRODE

MOLECULES
OF LIQUID
CRYSTAL

TRANSPARENT
ELECTRODE



RUBBING
TREATMENT



TILTED IN
DIFFERENT
DIRECTIONS

TILTED IN
SPECIFIC
DIRECTION

TRANSMITTANCE

APPLIED VOLTAGE

4V

FIG. 18C

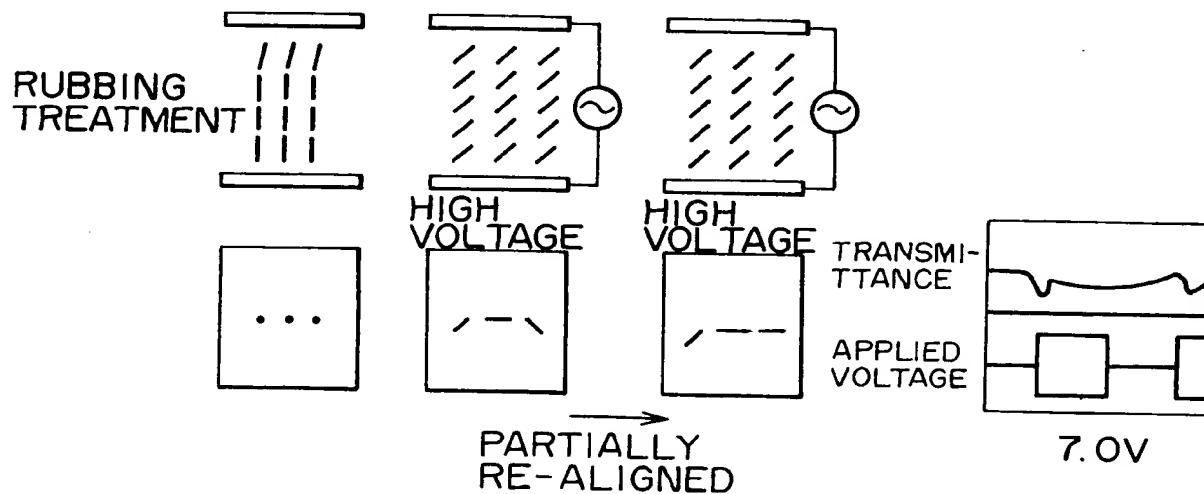
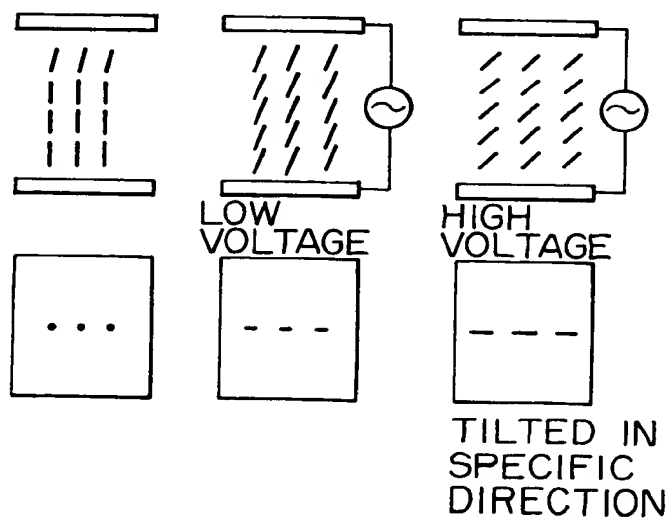


FIG. 18D



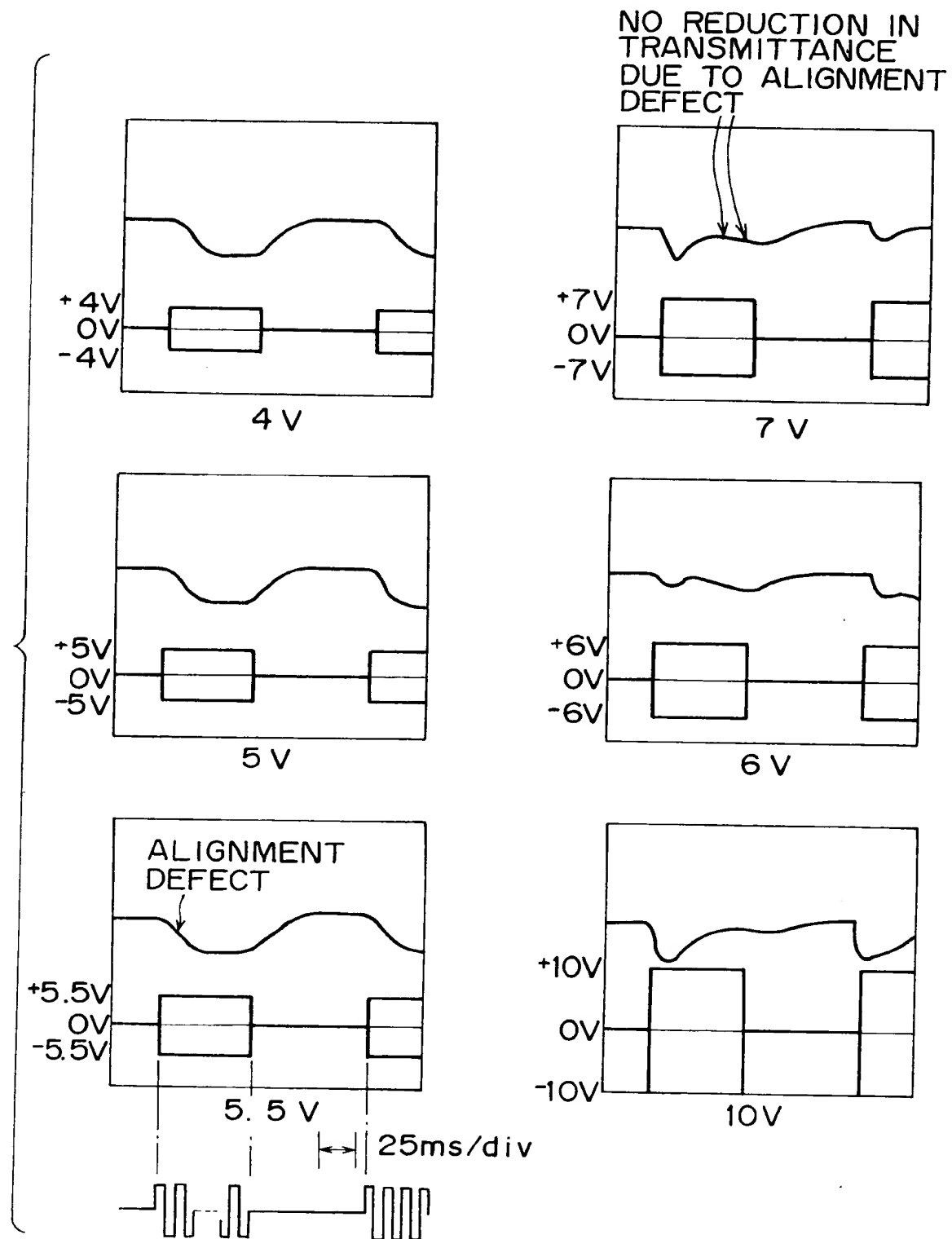


FIG. 20

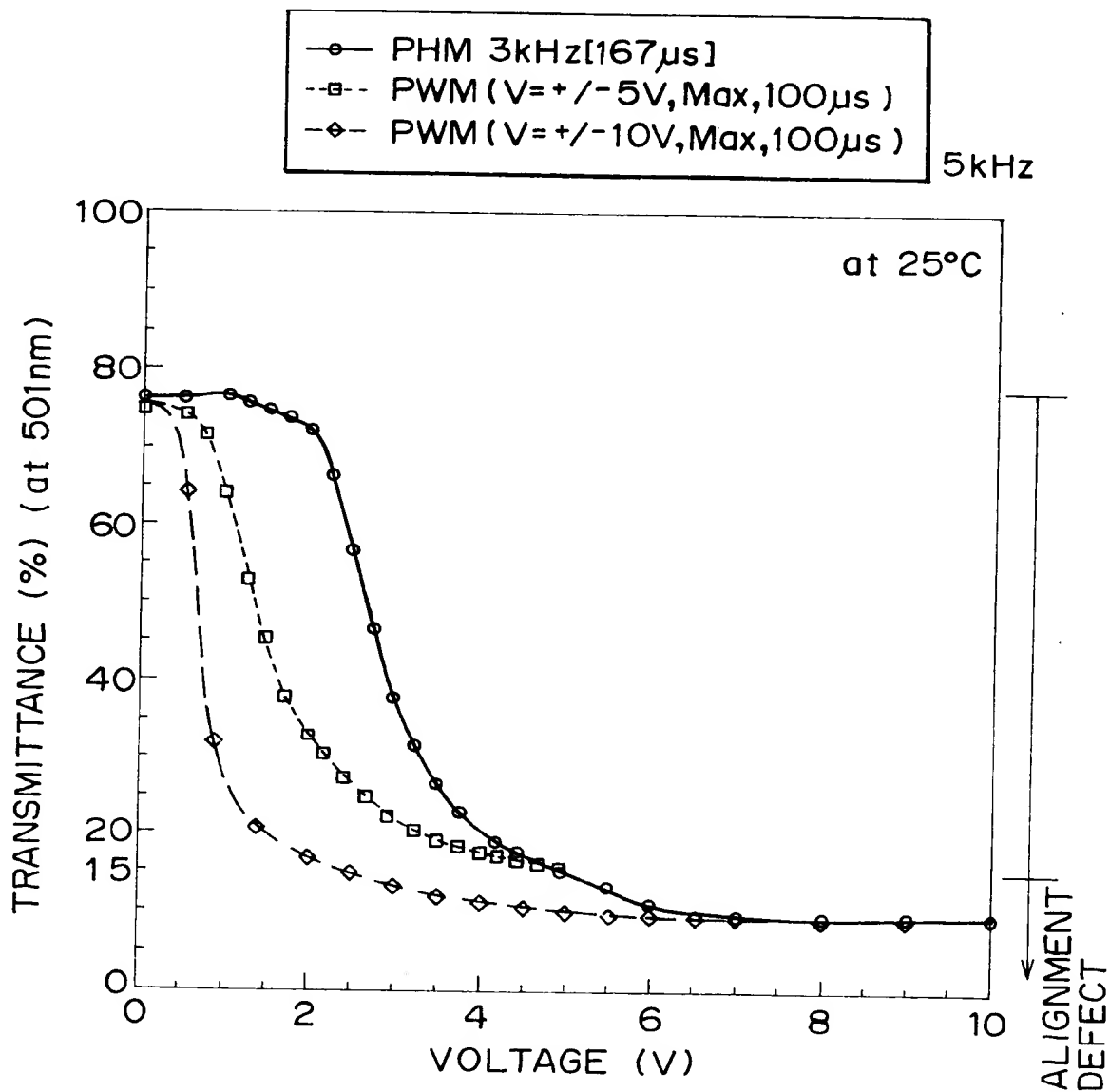


FIG. 21A

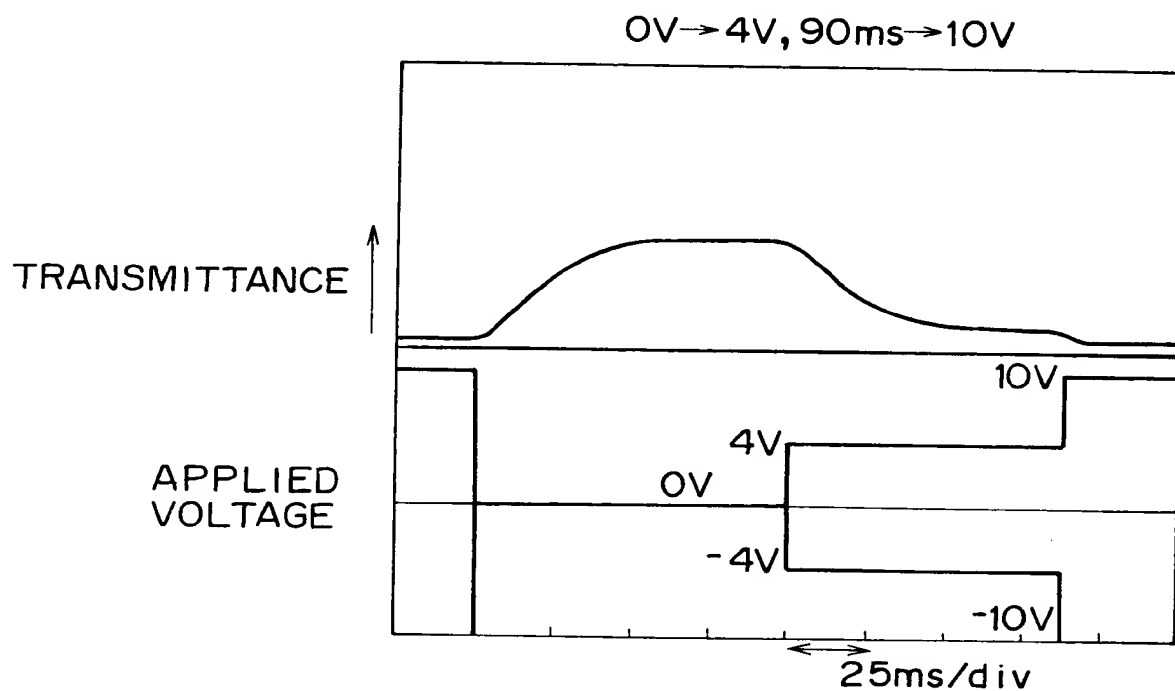


FIG. 21B

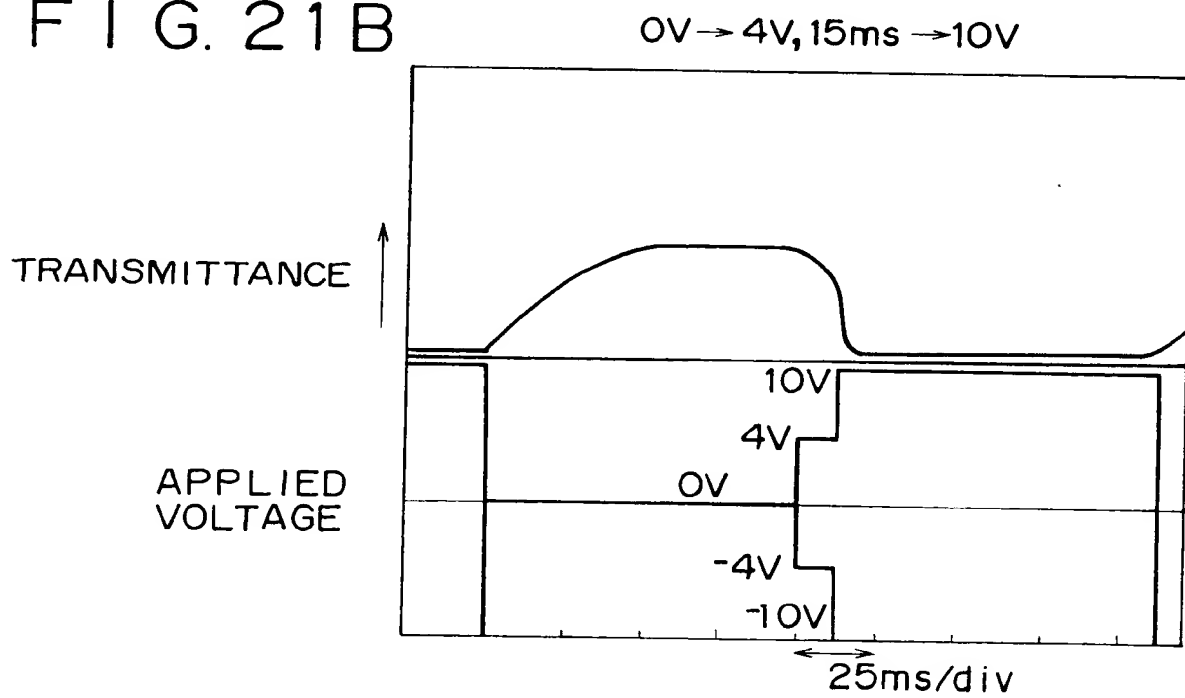


FIG. 22

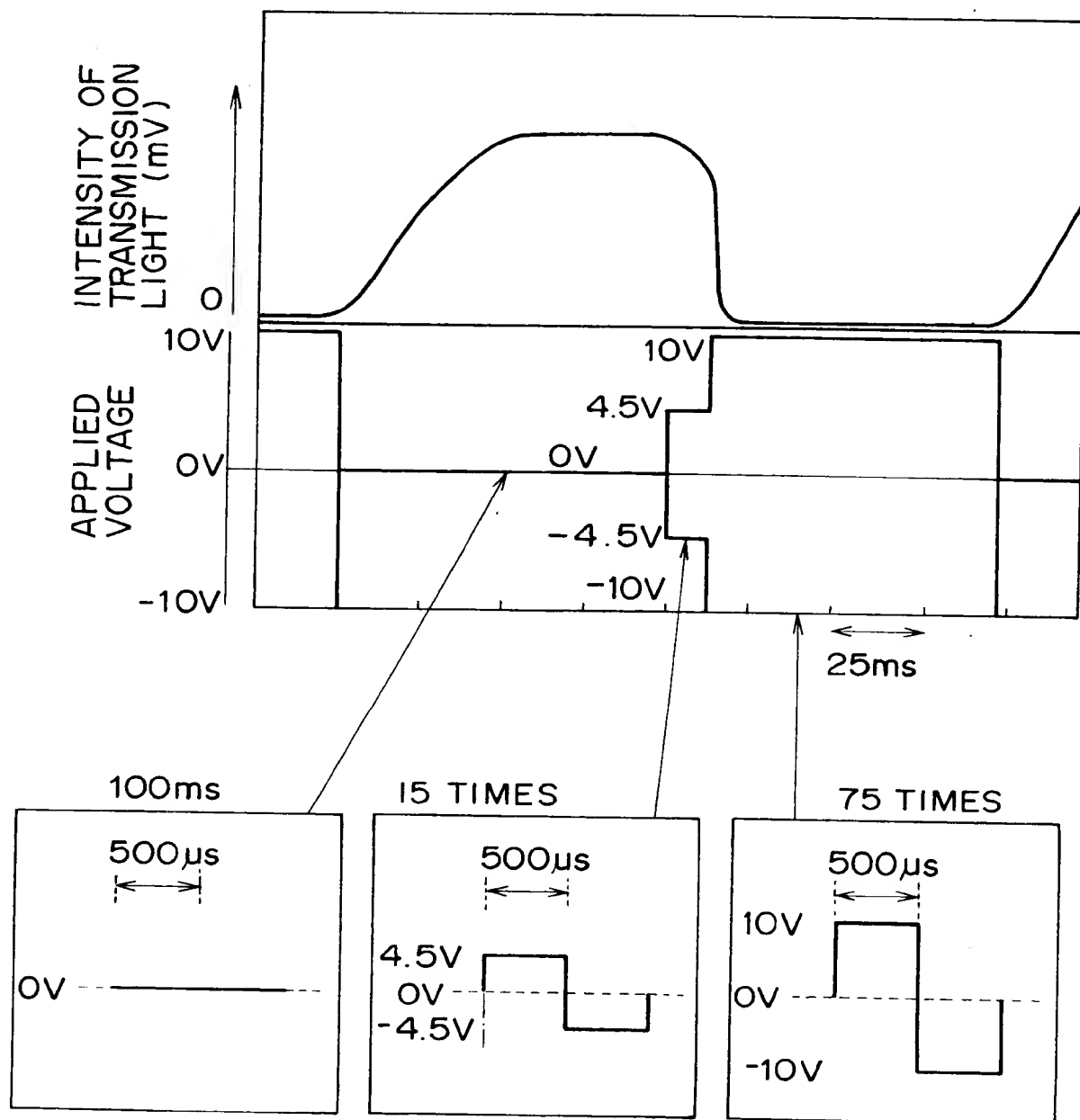


FIG.23A FIG.23B FIG.23C FIG.23D FIG.23E

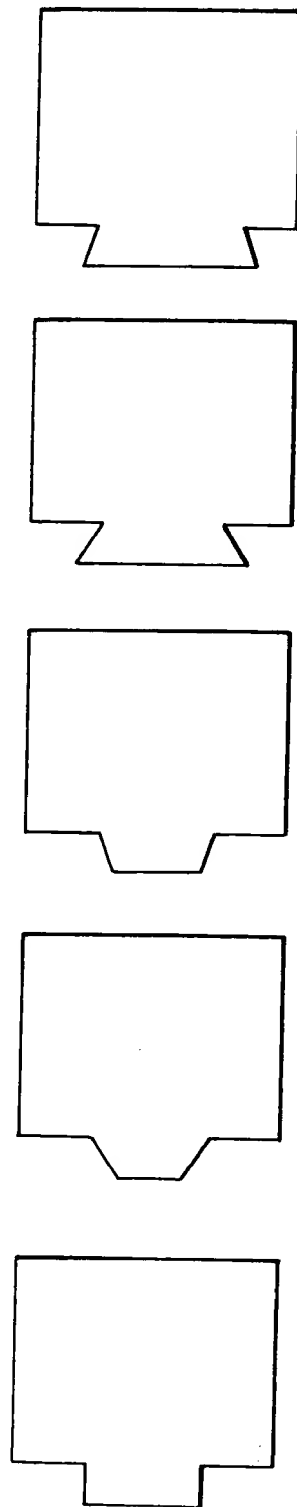


FIG. 24A

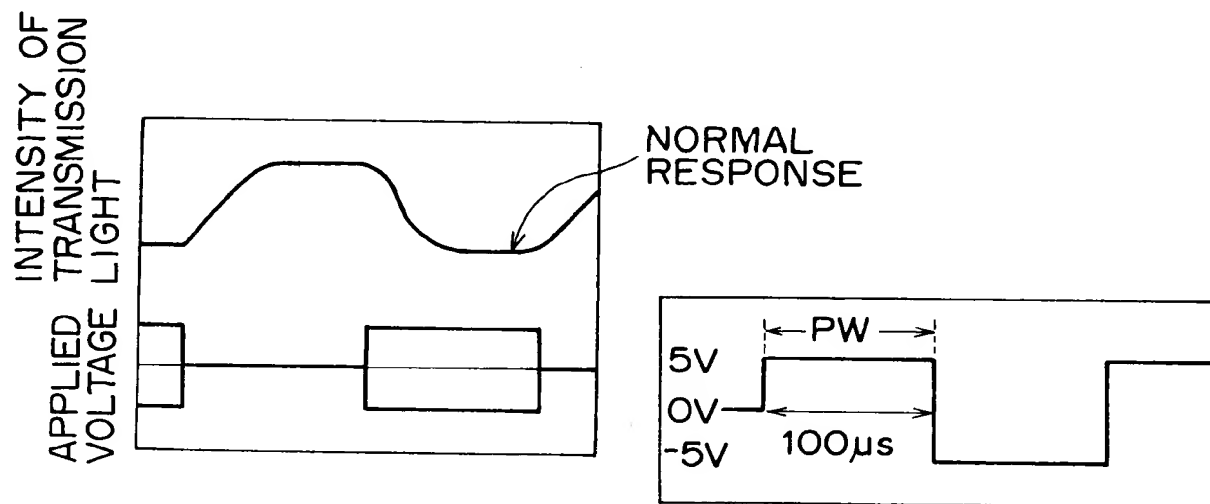


FIG. 24B

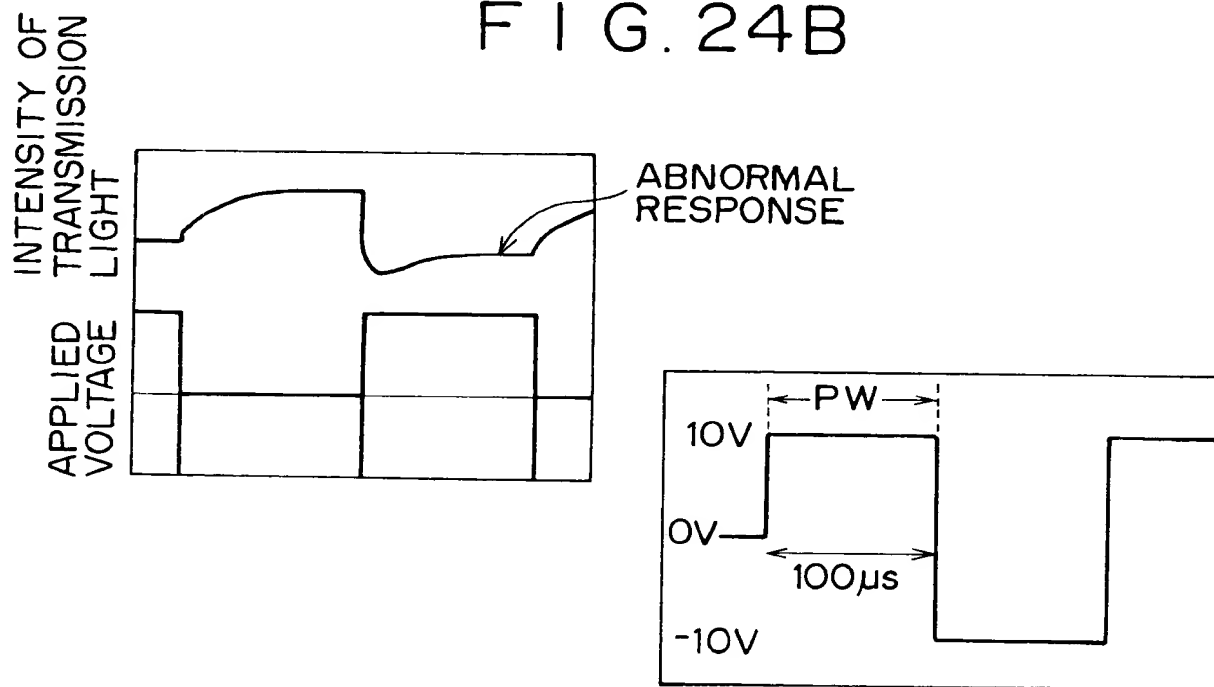


FIG. 25

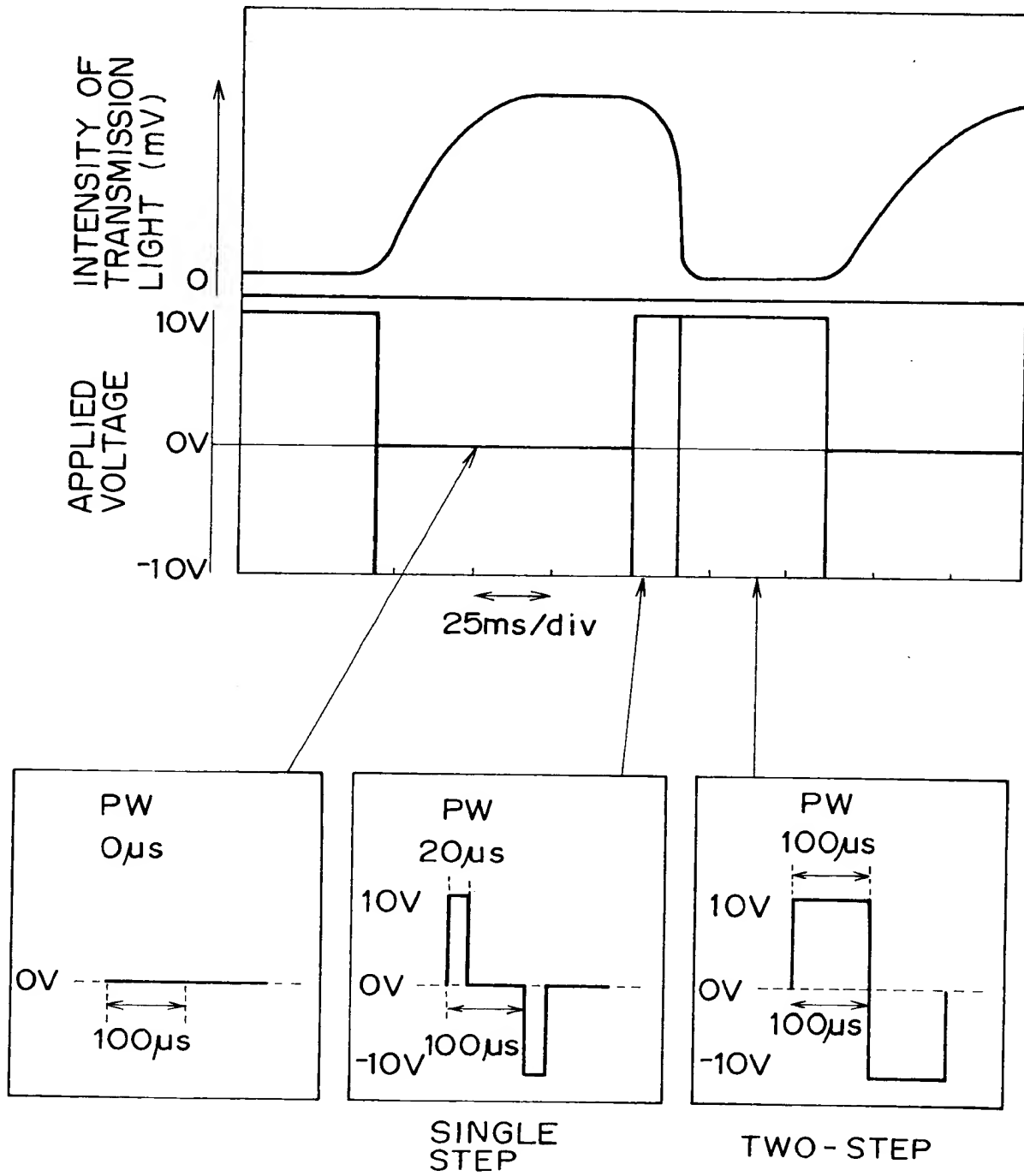


FIG. 26

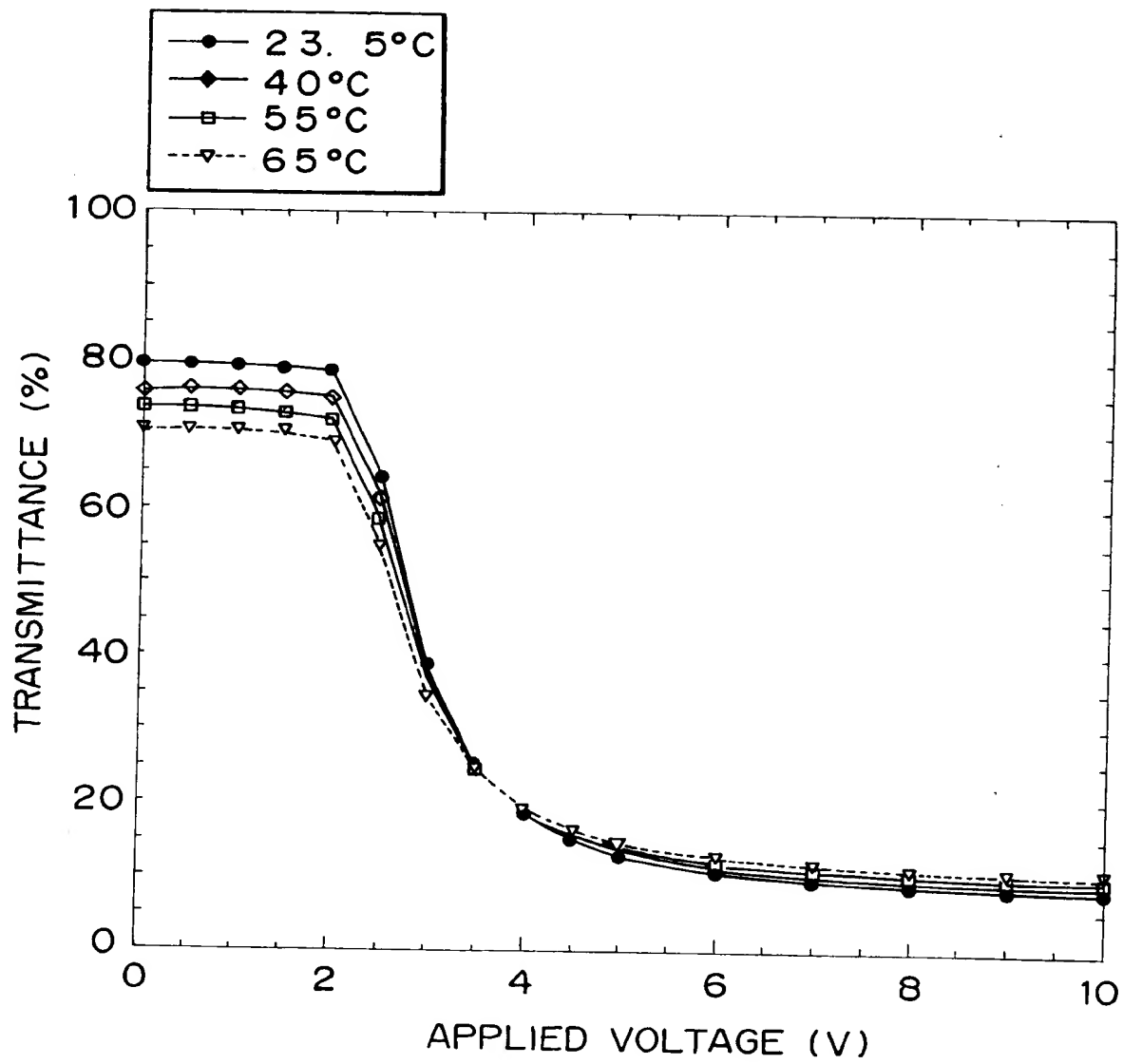


FIG. 27

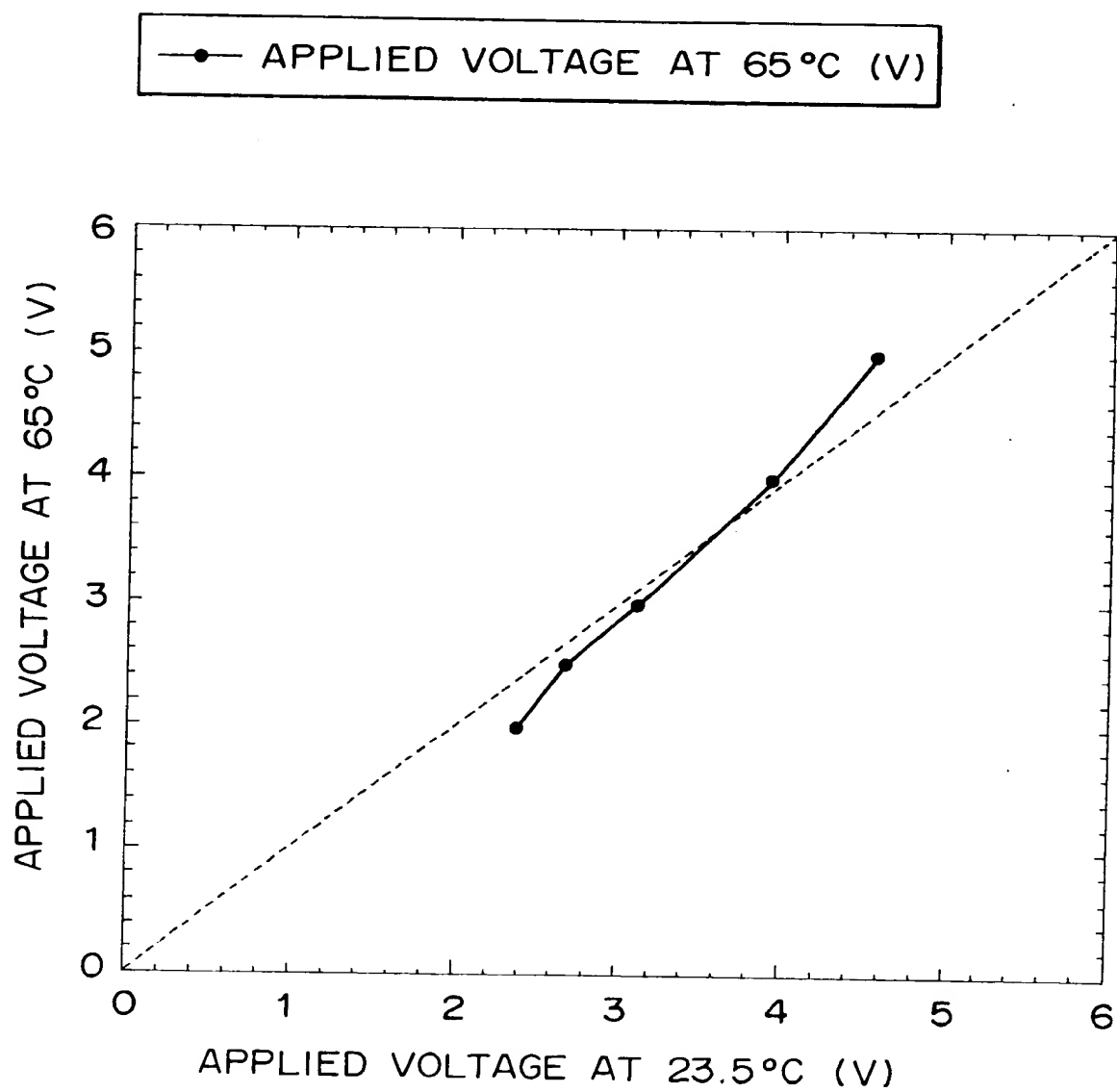


FIG. 28

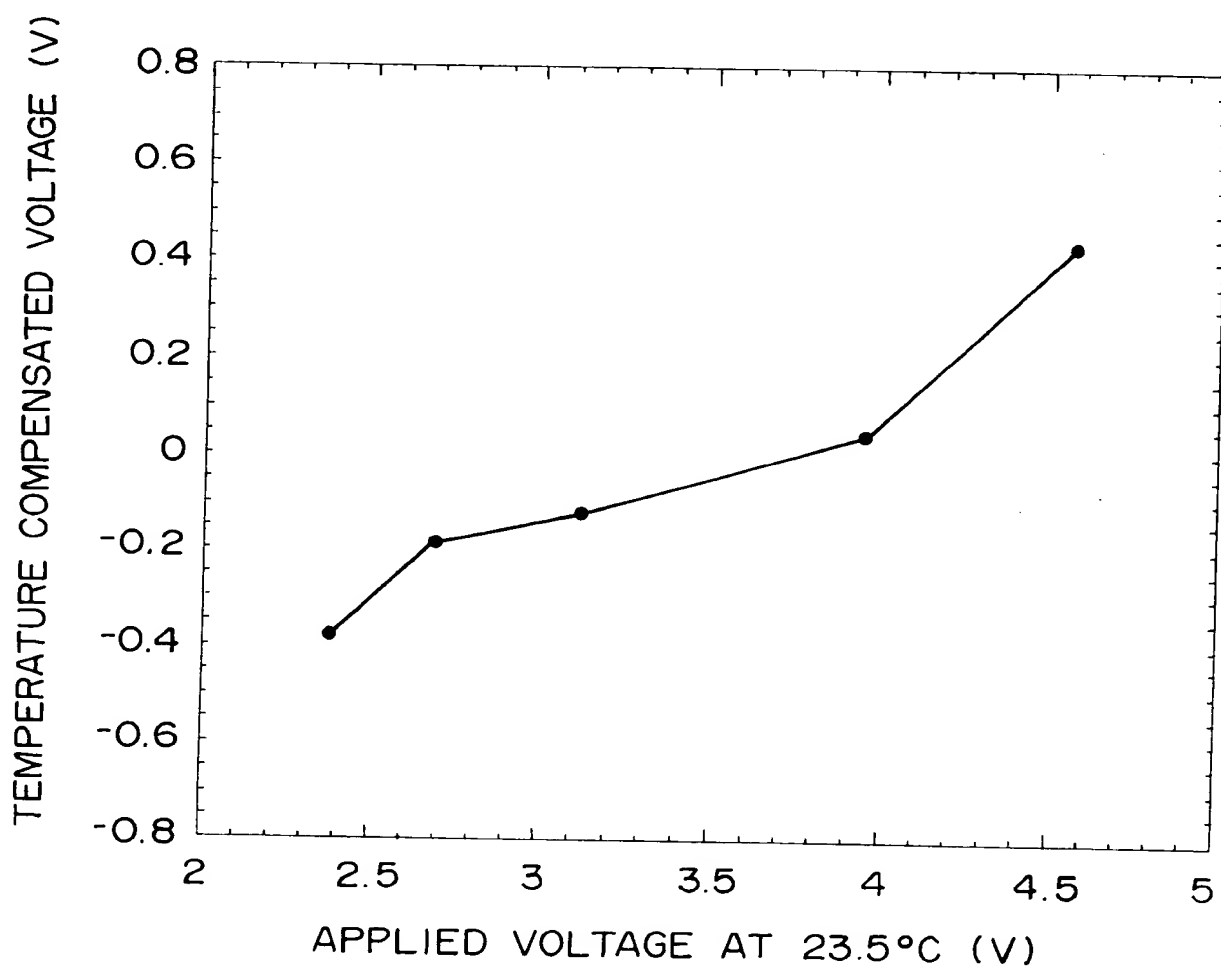


FIG. 29

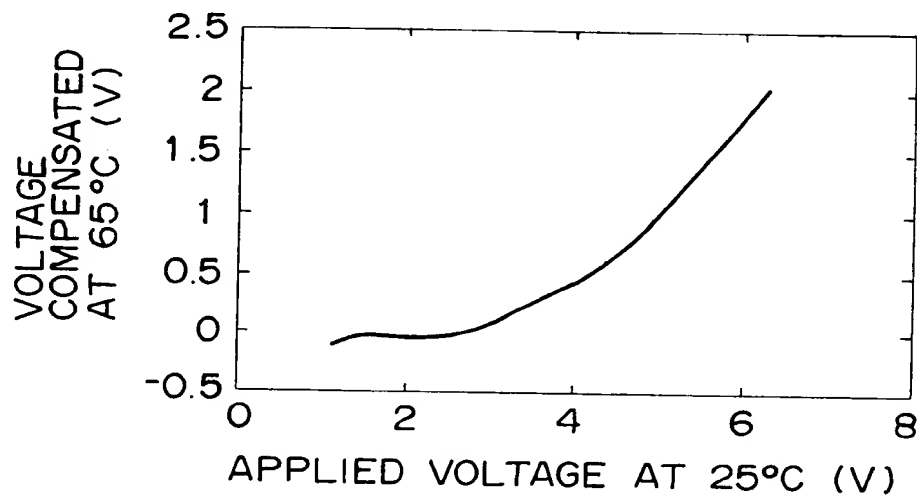


FIG. 30

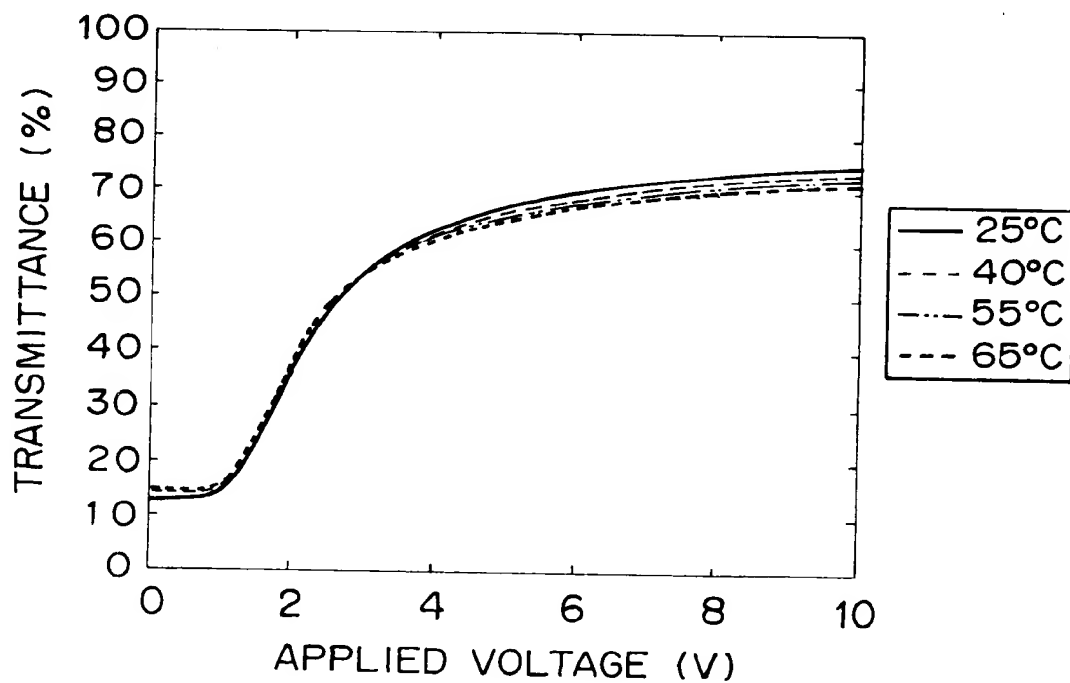


FIG. 31

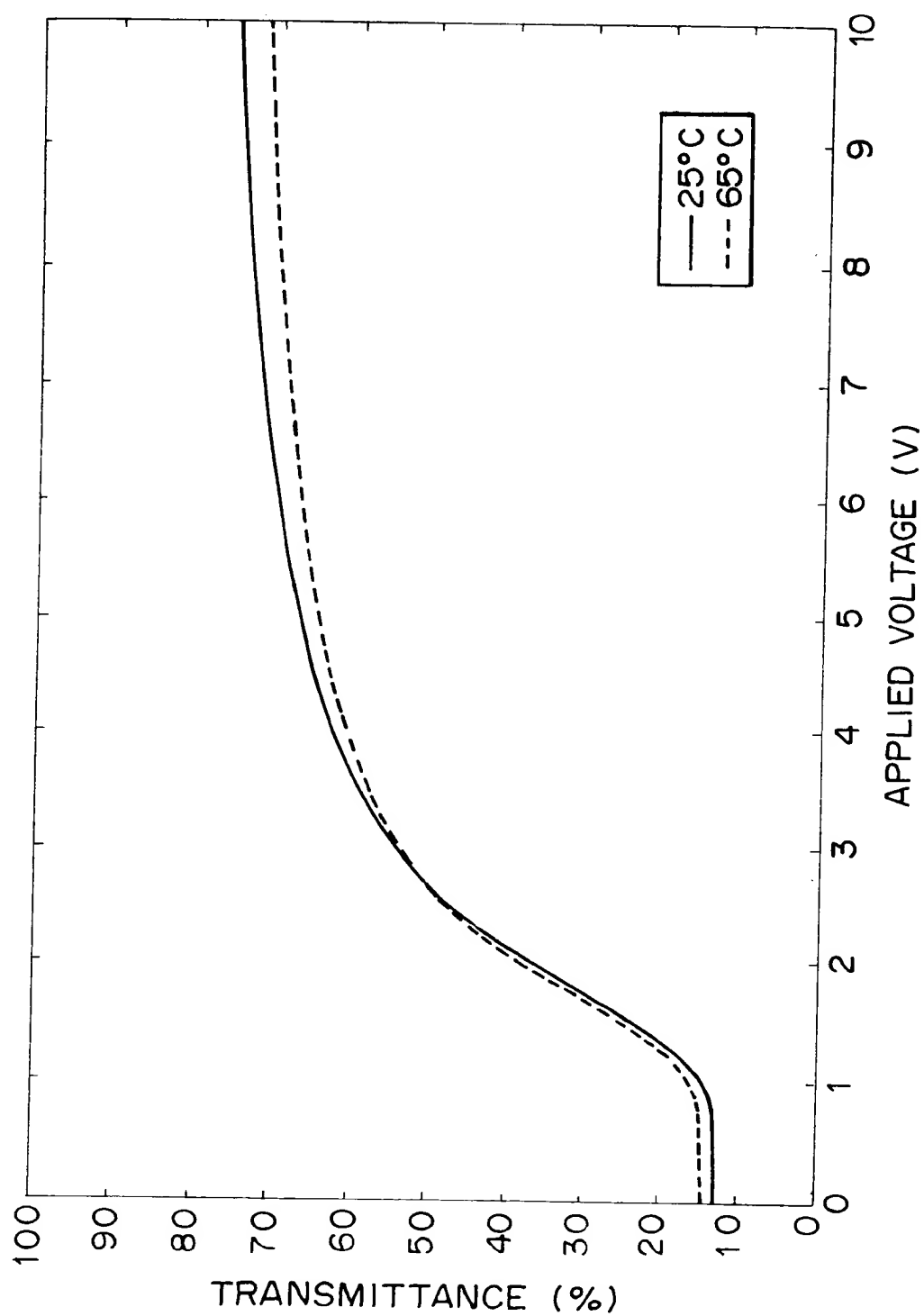


FIG. 32

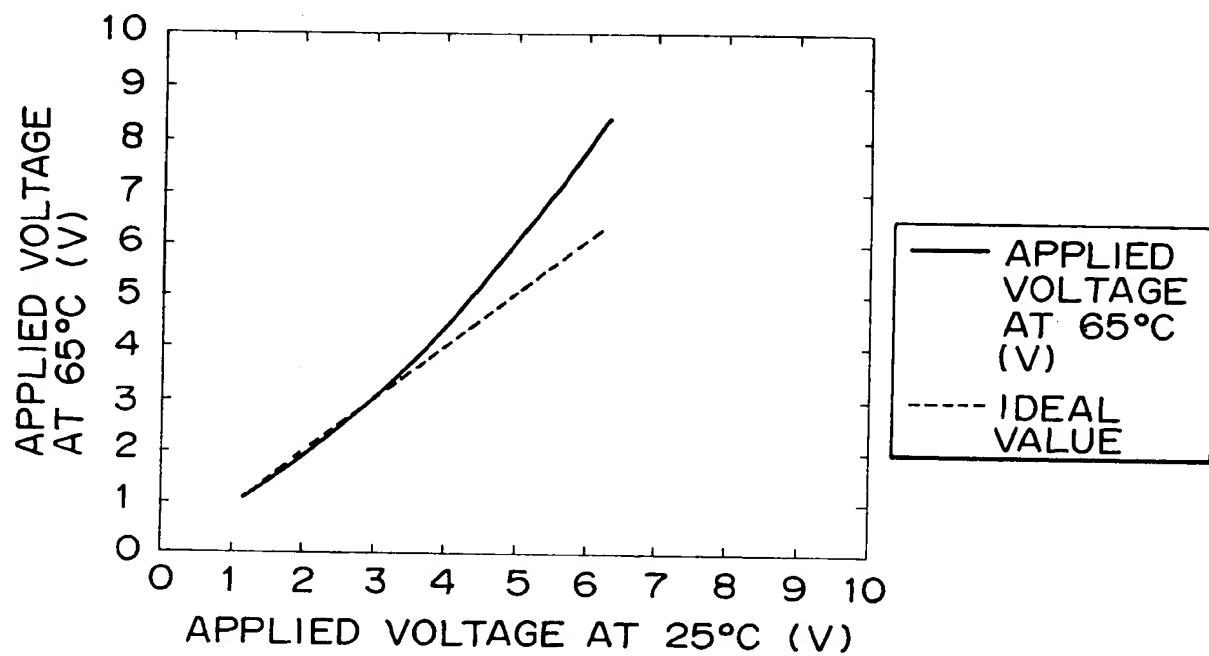


FIG. 33

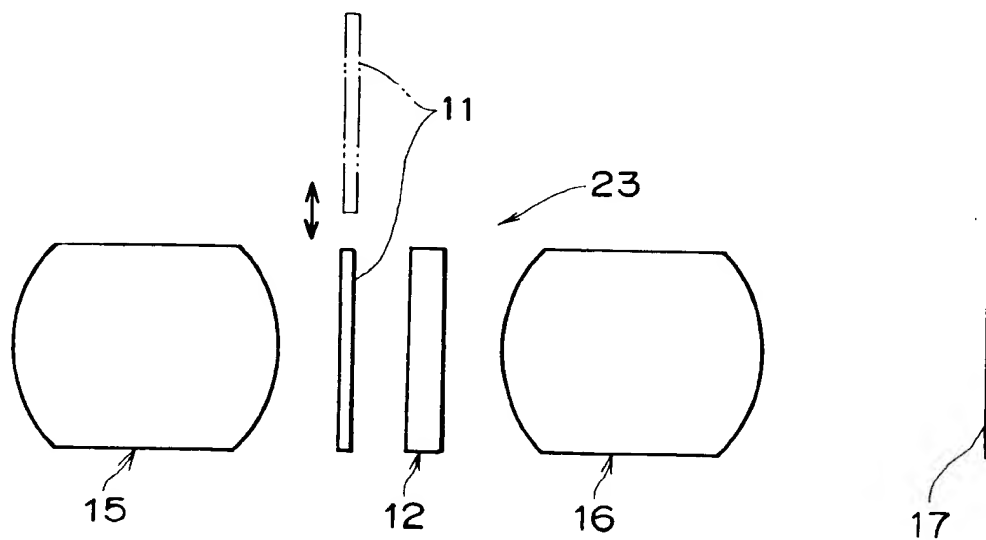


FIG. 34

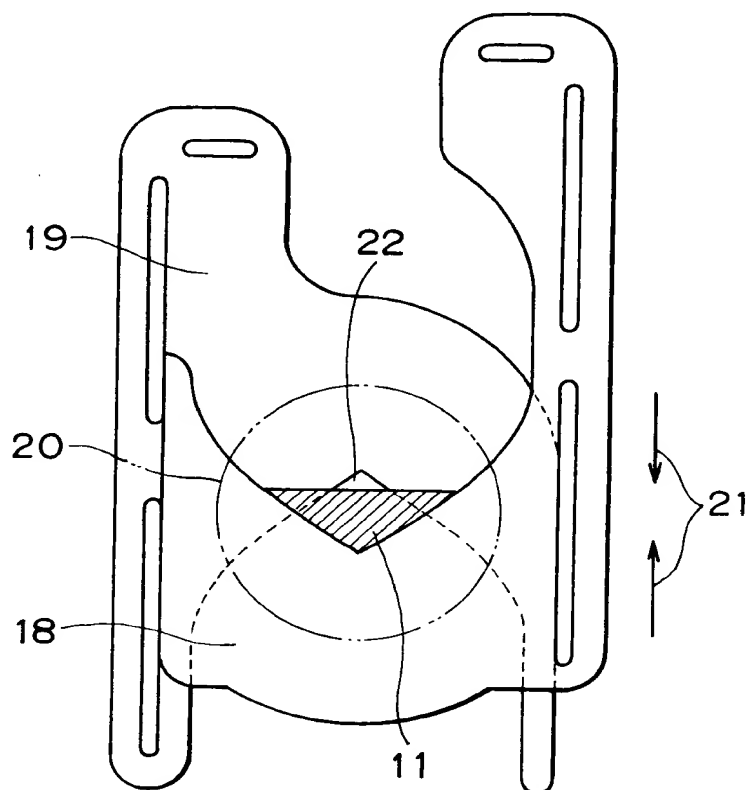


FIG. 35A

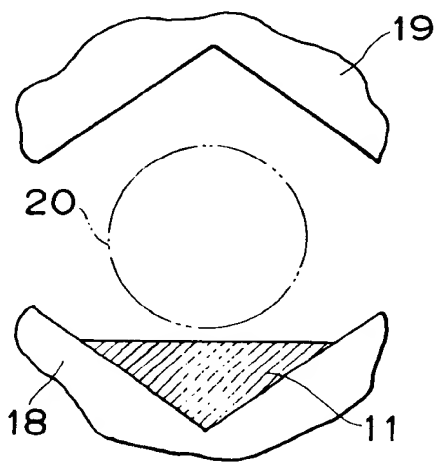


FIG. 35B FIG. 35C

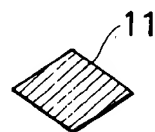
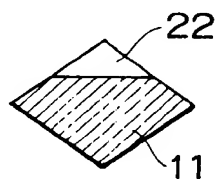


FIG. 36

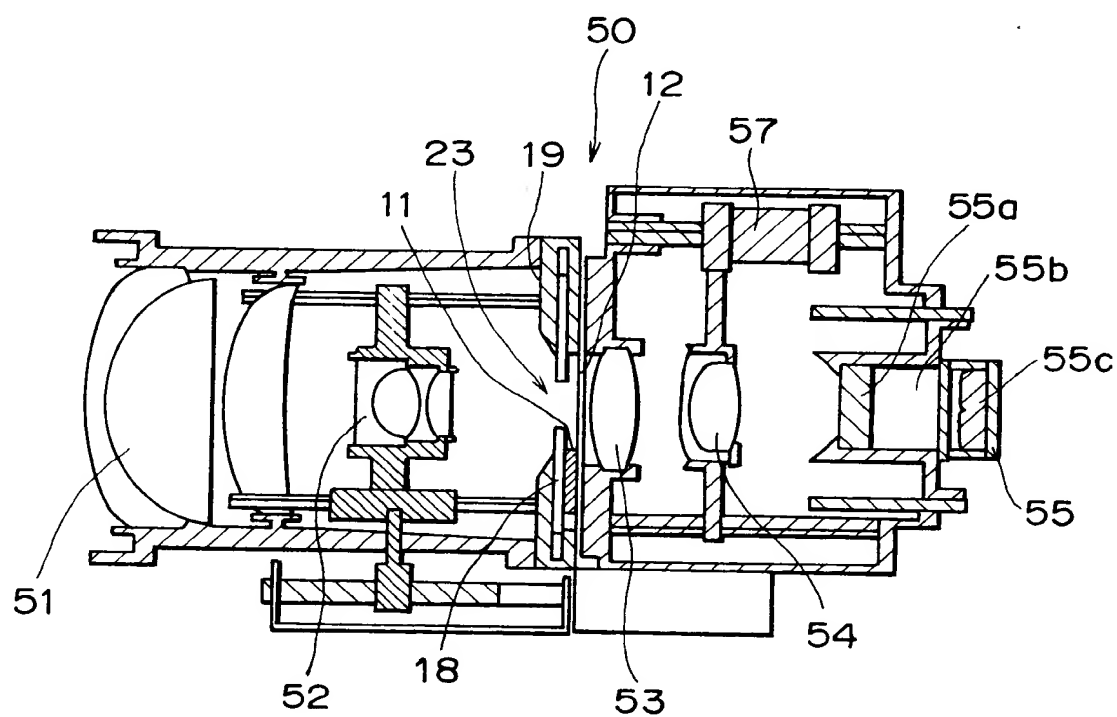


FIG. 37

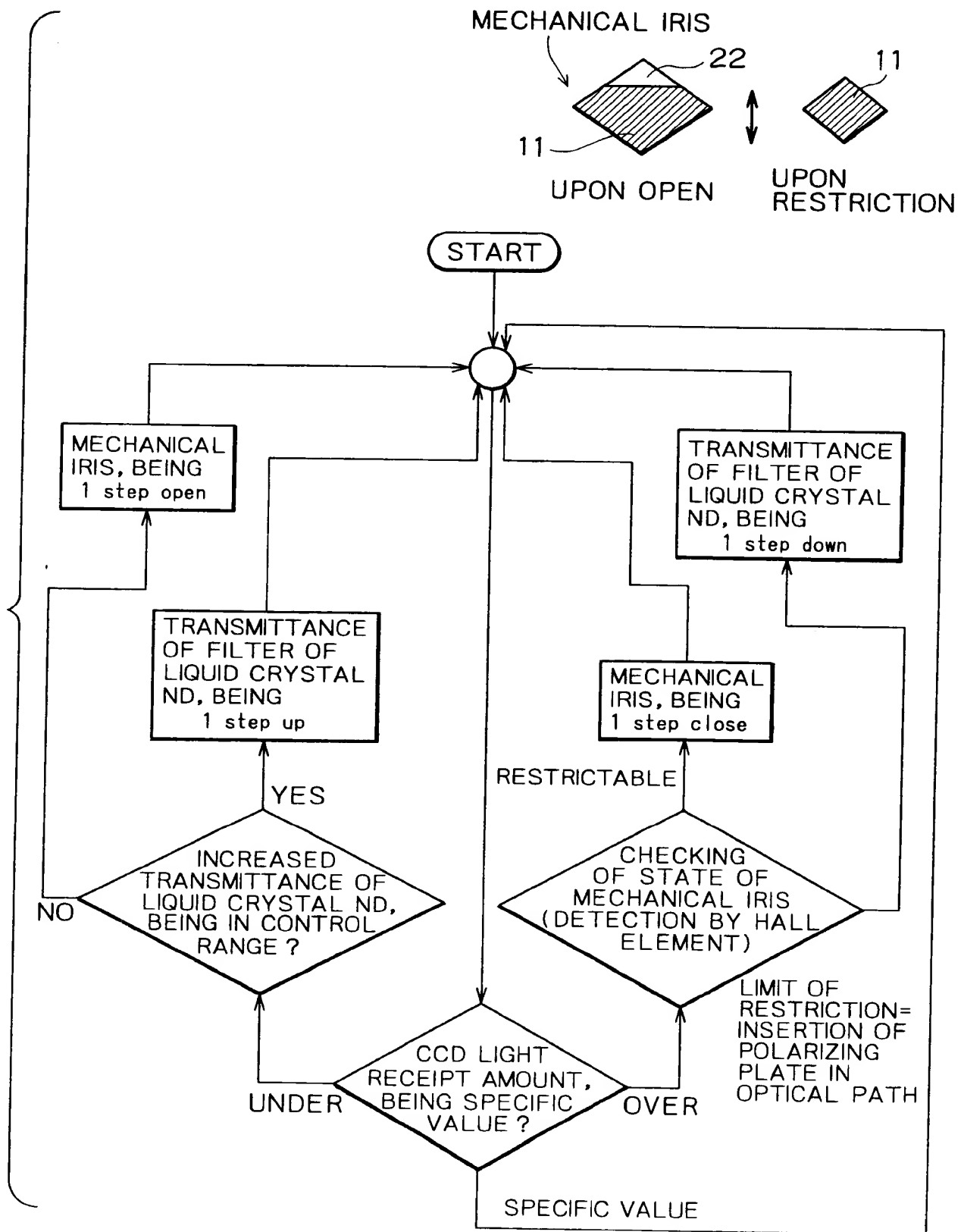


FIG. 38

